WATERVILLE FIRE DISTRICT 1 SUBSURFACE VOC INVESTIGATION REPORT FEBRUARY 2014

Prepared for:
VTANR/DEC
Waste Management
and Prevention Division
1 National Live Drive Davis 1
Montpelier, VT 05620-3704
Attn: Lynda Provencher

***Project No*. 08-221182.00**
February 2014

***Prepared by*:**
ECS
1 Elm Street, Suite 3
Waterbury, VT 05676
tel: 802-241-4131
www.ecsconsult.com

EXECUTIVE SUMMARY

This report summarizes the findings of an area-wide subsurface investigation and distribution system sampling event to determine the source of volatile organic compounds (VOCs) identified in the Waterville Fire District 1 water system (WSID #5169) in Waterville, VT (Figure 1). The work was completed in accordance with ECS' 11 December 2013 work plan and performed under the Site Investigation Contract with the Vermont Department of Environmental Conservation (VT DEC) and with cooperation from the Drinking Water and Groundwater Protection Division (DWGPD).

The Waterville Fire District 1 is a community water system with 48 service connections in the downtown historic district of Waterville, which is supplied by two springs. The distribution system provides water to mostly residential and some commercial/community buildings, including the Town Hall, Waterville Market, Waterville Union Church, and the Waterville Garage. Prior to ECS involvement, the tenants at 814 Route 109 reported a fuel oil odor to the water. A water sample collected by the water system operator from an inside faucet at 814 Route 109 on September 26, 2013 confirmed the presence of VOCs in the water.

On 14 November 2013, ECS collected distribution system samples from 16 locations, including the source (untreated water at the well house) and hydrant at the end of the distribution system on Rt. 109. Benzene was detected at 619 Rt. 109 at a concentration of 3.07 micrograms per liter (µg/L), which is above the Vermont Health Advisory of 1.0 µg/L. Ortho-chlorotoluene (2-) and/or para-chlorotoluene (4-) were detected at five locations at concentrations below the Vermont Groundwater Enforcement Standards (VGES). ECS conducted a windshield survey and visual inspection from public right-of-way areas to identify potential sources of contamination (PSOCs). At the conclusion of the November 2013 VOC investigation, the following PSOCs were identified:

A. Town Garage space behind 814/812 Route 109
B. Waterville Garage, 634 Rt. 109 (SMS Site # 92-1315)
C. 619 Route 109 – Potential gasoline filling station at adjacent structure south
D. 598 Route 109 – Potential gasoline filling station
E. Waterville Market – Potential gasoline filling station
F. 793 Rt. 109 – Former mill and store with potential gasoline station
G. Historical land use on Fox Hill Road, historical lumber yard with debris observed over the bank.

A subsurface investigation was recommended to determine the source of contamination along the water distribution line, located at an approximate depth of six feet below ground surface (bgs). Soil borings were installed along the old and new water distribution lines within the right-of-way of Route 109 to a maximum depth of 15 feet. This scope of work did not include defining the vertical limits and/or full extent of contamination from identified PSOCs. ECS's findings are summarized as follows:

- Hager-Richter Geoscience, Inc. (H-R) conducted a geophysical survey to locate old and new water lines and possible underground storage tanks (USTs) at locations at selected PSOCs. A possible UST was located southeast of the white barn at 619 Route 109.

- Research at the Town Clerks office confirmed the presence of USTs at 619 Route 109 as listed in a 1938 deed as property of the Gulf Oil Corporation. ECS has only acquired anecdotal evidence of gasoline fueling at 598 Route 109.

- Gasoline USTs were present at the Waterville Garage (634 Route 109) from 1970 through 1992. USTs were found to be leaking; however, no overburden groundwater was detected above bedrock in the vicinity of the former tanks in one soil boring (Griffin, 1994). Historical floor

drain discharges south of the Waterville Garage are another potential source of VOCs in the contaminated area.

- ECS supervised the completion of 21 soil borings and screened soil samples using a photoionization detector (PID) to determine the location of contaminants along the water system distribution lines north of approximately 570 Route 109. Soil borings were advanced to a maximum depth of approximately 15 feet.

- Surficial soils to approximately five feet bgs generally consisted of sand and silt with coarse sand and gravel. Soils from five to fifteen feet bgs consisted of fine sand and silt lenses. Soils were moist, especially noted at silty lenses, but evidence of the surficial groundwater table was not observed; however, soil borings were not advanced beyond 15 feet bgs.

- Elevated PID readings (> 200 parts per million or ppm) were obtained from soil samples collected from nine soil borings. The highest PID reading was 703 ppm, which was detected in a soil sample located north of 619 Route 109. The highest PID readings in all nine borings were between approximately 4 and 10 feet bgs. PID readings in all soil borings north of the Waterville Garage property were at background concentrations (0.1 to 0.0 ppm).

- Two soil samples were collected from borings at 598 Route 109 (SB-1) and 619 Route 109 (SB-6). VOCs were detected in both soil samples at concentrations above the Regional Screening Level (RSL) for residential soils. Ethylbenzene concentrations exceeded the RSL for industrial soils at SB-6. TPH concentrations exceeded the Vermont Soil Screening Value for industrial soils of 1,000 milligrams per kilogram (mg/kg). ECS subcontractor laboratory, Spectrum Analytical, Inc., reviewed the data and provided a professional opinion that the samples appeared to be representative of weathered gasoline.

- ECS collected water distribution system samples from seven locations along Route 109. Ortho-chlorotoluene (2-) and para-chlorotoluene (4-) were detected at 619 Route 109 at concentrations of 13.2 micrograms per liter (µg/L) and 5.03 µg/L, respectively, which are below the Vermont Groundwater Enforcement Standards (VGES) of 100 µg/L. No VOCs were detected at the other sampled locations.

- VOCs are likely entering the Waterville Fire District 1 water distribution system between 598 Route 109 and 634 Route 109 with elevated PID readings on both sides of Route 109. PSOCs include the Waterville Garage, an active automotive maintenance facility and former gasoline station, and historical gasoline fueling at 619 Route 109 and 598 Route 109. Utilities lines are common preferential pathways for contaminant migration, due to the disturbed sandy soil typically surrounding underground lines.

ECS recommends the following:

1. Excavation of vulnerable water line connection areas: (a) the curb stop for 619 Route 109 on the west side of Route 109 and (b) the junction with multiple connections on the east side of Route 109 between the Waterville Garage and 600 Route 109. A turbo vactor can safely expose the water connections and remove surrounding contaminated soils for proper disposal.

2. Make repairs to connections as necessary and protect vulnerable components from known contaminated soils. The water system can work with the DWGPD on appropriate safeguards,

such as secondary containment, bentonite lining within excavation, or concrete manhole. After repairs are made, resampling at previous VOC-impacted locations is recommended.

3. Remove the probable UST from 619 Route 109 and conduct a site investigation in the location of the UST and former dispenser island. This would include a soil and groundwater investigation, sensitive receptor survey and vapor intrusion survey. A determination should be made into the responsible party given the deed reference to Gulf Oil Corporation.

4. Additional investigation is warranted at the Waterville Garage property (634 Route 109). Gasoline contamination west of the building and possibly extending west under Route 109 may be the result of contamination from the former USTs or floor drain discharges south of the building. Preferential pathways along utility corridors (old and new water lines) should be considered in this investigation.

5. Based on the PID readings in soil borings at 598 Route 109, it appears that the contamination noted in this location (SB-1, SB-2, and SB-22) is elevated at the approximate depth of the water lines (both old and new) and then decreases. Additional soil borings are recommended in this area to delineate the vertical and horizontal extent of contamination; however, preferential flow along the utility corridors from the Waterville Garage property is possible.

TABLE OF CONTENTS

1.0 INTRODUCTION

This report summarizes the findings of an area-wide subsurface investigation and distribution system sampling event to determine the source of volatile organic compounds (VOCs) identified in the Waterville Fire District 1 water system (WSID #5169) in Waterville, VT (Figure 1). The work was completed in accordance with ECS' 11 December 2013 work plan and performed under the Site Investigation Contract with the Vermont Department of Environmental Conservation (VT DEC) and with cooperation from the Drinking Water and Groundwater Protection Division (DWGPD). The scope of work included:

- A review of historical maps and land records for selected properties,
- Geophysical location of USTs, old and new water lines, and potential floor drain discharge lines,
- Soil borings along the northern end of the distribution line, to identify contamination associated with potential sources of contamination (PSOCs), and
- Groundwater sampling at selected locations within the distribution system.

The Waterville Fire District 1 is a community water system with 48 service connections in the downtown historic district of Waterville. The distribution system provides water to mostly residential and some commercial/community buildings, including the Town Hall, Waterville Market, Waterville Union Church, and the Waterville Garage. Buildings within the distribution system have private septic systems and heat with fuel oil, kerosene, or propane.

According to the June 2013 Operating Permit, water is provided by two springs. The water is treated for corrosion control with soda ash and disinfected with chlorine. The treated water flows via gravity to a 2-cell concrete storage tank with a combined storage of 9,000 gallons and then into the distribution system through high density polyethylene (HDPE) piping. It is our understanding that the HDPE lines replaced the former water distribution system approximately seven years ago. ECS received proposed engineering plans for review (dated June 29, 2005) and updated as-built plans of the area of interest from Green Mountain Engineering. The HDPE lines are approximately six feet below ground surface (bgs) throughout the distribution system.

2.0 SITE HISTORY

Prior to ECS involvement, the tenants at 814 Route 109 reported a fuel oil odor emanating from the water. A water sample collected by the water system operator on September 26, 2013 confirmed the presence of VOCs in the water. The water system operator observed that the property was also connected to a spring of unknown location. A hydrant at the end of the distribution line was flushed for several days prior to resampling. Two more water samples were collected from 600 and 793 Route 109. VOCs were detected at these locations on October 1, 2013 and lower VOC concentrations were detected on October 10, 2013. The system has been flushing from the hydrant continuously since this time, under the direction of the DWGPD.

On 14 November 2013, ECS collected distribution system samples from 16 locations, including the source (untreated water at the well house) and hydrant at the end of the distribution system on Rt. 109. Benzene was detected at 619 Rt. 109 at a concentration of 3.07 micrograms per liter (µg/L), which is above the Vermont Health Advisory of 1.0 µg/L. Ortho-chlorotoluene (2-) and/or para-chlorotoluene (4-) were detected at five locations at concentrations below the Vermont Groundwater Enforcement Standards (VGES). ECS did not do extensive research on chlorotoluenes, however, literature reviewed by ECS indicated they are organic solvents produced as herbicide carriers, textile dye carriers, general solvents, paint strippers, and general cleaners. Sample results are summarized on Table 1.

ECS submitted the hydrant sample for analysis of total petroleum hydrocarbons (TPH) with fuel identification for EPA Method 8100. No petroleum compounds were detected in this sample; therefore, the results are non-detect. A sample collected from 756 Rt. 109 was placed on hold with the lab and was submitted for analysis due to VOC detections. Concentrations were too low for TPH or fuel identification on this sample.

ECS conducted a windshield survey and visual inspection from public right-of-way areas to identify PSOCs. At the conclusion of the November 2013 VOC investigation, the following PSOCs were identified:

A. Town Garage space behind 814/812 Route 109
B. Waterville Garage, 634 Rt. 109 (SMS Site # 92-1315)
C. 619 Route 109 – Potential gasoline filling station at adjacent structure south
D. 598 Route 109 – Potential gasoline filling station
E. Waterville Market – Potential gasoline filling station
F. 793 Rt. 109 – Former mill and store with potential gasoline station
G. Historical land use on Fox Hill Road, historical lumber yard with debris observed over the bank.

A subsurface investigation along the water distribution lines was recommended to evaluate several PSOCs identified in the initial report.

3.0 INVESTIGATIVE PROCEDURES AND RESULTS

3.1 RECORDS REVIEW

On 19 December 2013, ECS reviewed records from the Town Clerks Office for the following properties for additional information regarding identified PSOCs. Sanborn Fire Insurance (Sanborn) map coverage was requested from EDR, a database search company. Initially, no coverage was issued; however, they were able to find the undated Sanborn map previously reviewed by ECS at the University of Vermont Special Collections library. A copy of this coverage is provided in Appendix A. A summary of ECS' findings are as follows:

619 Route 109

The structure south and adjacent to the residence at 619 Route 109 was reportedly a gasoline filling station in the past. The structure appears to be currently used as storage and garage space, as there are some mower parts stored outside of the structure. The undated Sanborn maps show the house as a dwelling (designated with a D) and the structure south as a stable (designated with a large X through the structure). The 1878 Beers Atlas shows a "Sash Factory" in the vicinity of this property and north, between the North Branch of the Lamoille River and Route 109.

According to the deeds recorded in the Town Clerks office, this property is currently owned by Mark and Jennifer Davis, who purchased the property in 2011 from Steven C. and Susan K. Davis. Deed references show that Kenneth and Emma Davis purchased the property in 1938 from E.G. and Marie Bassett. The 1938 deed references the parcel, Shattuck Stevens water system, and presence of gasoline pumps/underground tanks, with the following reference (Book 9, Page 62):

It is understood that this in no way conveys the two gasoline pumps and underground tanks and sign pole which are the property of the Gulf Oil Corporation.

Mr. Bruce Davis recalls the gasoline station at this property as a Gulf Station, located between the house and the structure.

598 Route 109

According to two local residents, this property was reportedly a gasoline filling station in the past. Town Records indicated that the property is currently owned by Lee Allen and Karen Iola Gray and utilized as apartment housing (3 units). Lee Allen Gray purchased the property in 1978 from Richard J. and Diane J. Reen. The deed reference describes a (2) apartment house, barn and lot. The undated Sanborn maps show the building as a dwelling with stable and outbuilding. The 1878 Beers Atlas Map shows the property as containing the Wilbur Store and Post Office. Deed references reviewed by ECS did not mention gasoline tanks or dispensers. Mr. Gray was unaware of the property being used as a store or gasoline filling station in the past.

Waterville Garage, 634 Rt. 109 (SMS Site # 92-1315)

The Waterville Garage is a Closed Vermont hazardous waste site (VT DEC site #92-1315) that received Sites Management Activity Completed (SMAC) designation on October 21, 2010. On October 14, 1992, two gasoline USTs were removed from the site with capacities of 2,000 gallons and 1,000 gallons. Contaminated soil was detected in the UST excavation and 27 cubic yards of soil was removed and stockpiled onsite. The VT DEC requested additional investigation and Griffin International installed a soil boring in the vicinity of the former UST excavation on February 16, 1994. Contamination was detected in this boring to 29 feet below grade when the boring met refusal on suspected bedrock. No

groundwater was encountered in the boring; therefore, no monitoring well was installed. Stockpiled soils were screened and remained polyencapsulated onsite. The North Branch of the Lamoille River was identified as a sensitive receptor, as two groundwater seeps were observed and characterized as having gasoline-related compounds emanating from the bank in 1994 and 1998. A report of old metal car parts and metal debris discarded along the bank, overgrown with vegetation, was reported during these investigations as a result of suspected garage dumping. Subsequent work performed by the Verterre Group resulted in the thin-spreading of the soil stockpile in November 2006. Water samples were collected from two seeps on the bank of the North Branch of the Lamoille River and no VOCs were detected in these samples. The VT DEC issued the Sites Management Activities Completed (SMAC) letter in 2010.

According to the deed records, this property was conveyed to Kenneth L and Emma M. Davis from the Town of Waterville in 1988. Reference to the parcel (Parcel 3) being utilized by Bruce Davis as an automotive repair and service business is made in a 2011 transaction between Steven C. and Susan K. Davis and Mark S. and Jennifer L. Davis. The Waterville Garage was not depicted on the 1962 air photo, but was present on the 1978 series photo. According to the Vermont Agency of Natural Resources database, the gasoline USTs were installed in 1970.

The undated Sanborn maps show the building as a dwelling with an outbuilding. The 1878 Beers Atlas Map shows the property with buildings owned by E.L. Mann. According to the 1974 edition of Log Cabin Days, the current Waterville Garage may have been a blacksmith shop.

3.2 GEOPHYSICAL SURVEY

On 31 December 2013 and 8 January 2014, Hager-Richter Geoscience, Inc. (H-R) conducted a geophysical survey in the areas of concern (Area 1 designated by H-R in at 619 Rt. 109 and Area 2 designated by H-R in front of 598 Rt. 109). Methods were utilized to locate old and new water lines and possible USTs at locations described above. The complete report is presented in Appendix B. The report conclusions are as follows:

- A possible UST was detected at the southern end of Area 1 (619 Route 109).
- No USTs were detected in Area 2 (598 Route 109).
- No other UST with: (1) electrical properties sufficiently contracting with the surrounding soils to produce EM anomalies, or (2) a capacity of 500 gallons or more was detected within the effective depth of penetration of the GPR signal (from 5 to 8 feet) in the surveyed area.
- Several utilities interpreted to be storm drain lines, water lines, and water service connections, were detected in Areas 1 and 2.
- The positions of water lines and service connections were determined and marked on the ground along a 1,200-foot section of Vermont Route 109.

3.3 SOIL BORING / MONITORING WELL INSTALLATION

On 10 January and 17 January 2014, ECS supervised the completion of 21 soil borings (SB-1 through SB-9 and SB-11 through SB-22) to determine the location of contaminants and possible contaminant sources along the water system distribution lines. During this investigation, borings were advanced to a maximum depth of 15 feet with a Geoprobe® operated by Accuworx USA, Inc. (Accuworx).

Surficial soils generally consisted of sand and silt with coarse sand and gravel at the surface (0-5') and fine sand and silt lenses observed between 5 to15'. Soils were moist, especially noted at silty lenses, but

evidence of the water table was not observed; however, soil borings were not advanced beyond 15 feet.

Soil borings were backfilled with cuttings from each boring and compacted with a rock bar. Clean #1 silica filter sand was used to bring the borehole annulus to grade and cold patch was used to patch the road surface in accordance with VTrans permit general conditions. No contaminated soil cuttings were generated.

On 23 January 2014, the soil borings were located with GPS relative to existing Site features by Lakeside Environmental Group, LLC (LEG) of Burlington, VT (Figure 1). Old and new water lines are depicted on the site map based on a combination of water system engineering plans from Green Mountain Engineering and evidence gained through the geophysical survey. Soil boring logs are presented in Appendix C.

3.4 SOIL SCREENING RESULTS

During the soil boring program, elevated PID readings (greater than 200 parts per million) were obtained from soil samples collected from SB-1, SB-2, SB-3, SB-6, SB-7, SB-8, SB-20, SB-21, and SB-22. The highest PID reading was 703 ppm, which was recorded on a soil sample collected at approximately 6 feet bgs in SB-20, located north of the service line curb stop at 619 Route 109. The highest PID readings in all these borings were between approximately 4 and 10 feet bgs. The vertical extent of contamination at some of these soil borings was not defined, as the investigation focused on contamination in close proximity to the water distribution lines (~6 feet bgs). PID readings greater than 25 ppm at the vertical extent of the boring (15 feet bgs) were detected at SB-3, SB-6, SB-7, SB-8, SB-20 and SB-21.

PID readings ranging from 0.2 to 5.5 ppm were detected at SB-4, located upgradient of the probable UST at 619 Route 109. PID readings of 0.1 ppm were detected at SB-9 between 0 and 6 feet bgs on the northern portion of the Waterville Garage parcel. No visual or olfactory evidence of contamination was observed. No PID readings above background (0.0 ppm) were detected in SB-11 through SB-19, all of which are located north of the Waterville Garage property.

An ECS field scientist screened soil samples from discrete intervals in each soil boring for the possible presence of VOCs using a IonScience Tiger portable PID. The PID was calibrated in the field with an isobutylene standard gas to a benzene reference. Soil samples were placed into a polyethylene bag, which was then sealed, agitated, and allowed to equilibrate. The PID probe was inserted into the headspace, and the highest reading was recorded. PID screening results are included on the boring logs in Appendix C.

3.5 SOIL SAMPLING AND ANALYSIS

On 10 January 2014, ECS collected two soil samples for laboratory analysis of VOCs by EPA Method 8021B, TPH by EPA Method 8100, and total lead. One soil sample, designated SB-1, was collected from a soil boring west of 598 Route 109 at approximately seven feet bgs. Another soil sample, designated SB-6, was collected from a soil boring northeast of the 619 Route 109 house at approximately 5 feet bgs.

The soil samples were submitted under chain-of-custody in an ice-filled cooler to Spectrum Analytical, Inc. of Agawam, Massachusetts. The State of Vermont has not established enforceable standards for soils; VT DEC currently evaluates soil data based on the U.S. EPA Regional Screening Level (RSL) for residential and industrial soils (November 2013) and the Vermont Department of Health values.

VOCs were detected in both soil samples at concentrations above the soil guidelines referenced above. Ethylbenzene concentrations exceeded the RSL for industrial soils at SB-6. Benzene, Naphthalene, and 1,2,4-TMB exceeded the RSLs for residential soils at SB-6. Ethylbenzene, Naphthalene and 1,2,4-TMB exceeded RSLs for residential soils at SB-1. Lead was detected at concentrations below residential RSLs.

TPH concentrations were 5,970 milligrams per kilogram (mg/kg) at SB-1 and 3,670 mg/kg at SB-6, which exceed the Vermont Soil Screening Value for industrial soils of 1,000 mg/kg. The fuel identification on both samples was listed as unidentified, but most closely resembled Ligroin. According to the laboratory, ligroin includes mineral spirits, petroleum naphtha, and varnish makers' & painters' (VM&P) naphtha.

ECS requested a professional opinion from the laboratory forensics department at Spectrum Analytical, Inc. for the two soil samples. According to Amine Dahmani, R&D Director, the two soil samples contain weathered gasoline and no other petroleum products. The opinion letter and chromatograms are presented in Appendix D. A summary table is presented in Table 2 and laboratory report forms are included in Appendix E.

3.6 GROUNDWATER SAMPLING AND LABORATORY ANALYSIS

On 23 January 2014, ECS collected distribution system samples from seven locations along Route 109, including -570, -598, -600, -619, -634, -738, and -793. These locations were chosen based on previous VOC detections or at locations not previously sampled.

Ortho-chlorotoluene (2-) and para-chlorotoluene (4-) were detected at 619 Route 109 at concentrations of 13.2 micrograms per liter (µg/L) and 5.03 µg/L, respectively, which are below the Vermont Groundwater Enforcement Standards (VGES) of 100 µg/L. No VOCs were detected at the other sampled locations. ECS did not do extensive research on chlorotoluenes, however, they are organic solvents produced as herbicide carriers, textile dye carriers, general solvents, paint strippers, and general cleaners. Sample results are summarized on Table 1 and laboratory reports are presented in Appendix E.

Water samples were collected from each location after flushing the faucet for approximately 5 to 10 minutes prior to collecting a sample. Due to the cold temperatures, the hydrant at the end of the line remained on for the sampling event to flush the water lines. This may have contributed to lower VOC concentrations obtained during the sampling event, due to dilution.

3.7 FLOOR DRAIN AND DISCHARGE EVALUATION – WATERVILLE GARAGE

A limited evaluation of on-site drainages and discharges was conducted to determine if VOCs were being released from the Waterville Garage. During the geophysical survey, H-R attempted to locate potential underground lines extending from the garage to the North Branch of the Lamoille River, running perpendicular to the water lines. No evidence of floor drain discharge lines were detected during geophysical testing along the right-of-way of Route 109. The geophysical survey did not extend onto the property to locate discharge lines around the building.

According to the Mr. Bruce Davis, there are currently no floor drains in the garage. Historically, floor drains were present in the garage prior to being filled with cement approximately 20 years ago. He believes the floor drains discharged south of the building. ECS did not observe active floor drains in the

garage during water sample collection; however, a thorough site inspection was not part of this scope of work (i.e. moving floor mats to view the floor).

3.8 CONCEPTUAL SITE MODEL

VOCs are likely entering the Waterville Fire District 1 water distribution system between 598 Rt. 109 and 634 Rt. 109 with elevated PID readings on both sides of Route 109. Results of water quality testing by ECS suggest that water with the highest VOC concentrations observed in the drinking water at 619 Route 109. VOC concentrations tend to decrease to the north from the possible point of entry around 619 Route 109 and while the hydrant at the northern end of the line is continuously running. Besides the Waterville Garage, an active automotive maintenance facility and former gasoline station, evidence suggests that gasoline fueling also occurred historically at both 619 Route 109 (adjacent structure to the south) and 598 Route 109. These three properties remain likely sources of contamination for the Waterville Fire District 1 water system. A probable UST is likely still in place at 619 Route 109 (on the southeast corner of the white barn) with dispensers reportedly located between the barn and the house.

Gasoline USTs were present at the Waterville Garage from 1970 through 1992. USTs were found to be leaking; however, no groundwater was detected above bedrock in the vicinity of the former tanks in one soil boring (Griffin, 1994). Historical floor drain discharges south of the Waterville Garage are another potential source of VOCs in the contaminated area.

In contaminated zones, the DWGPD typically recommends special chemical resistant gaskets and fittings to withstand breakdown of materials in contact with petroleum products. Based on the water system plans, the distribution system lines along Route 109 are buried along the eastern side of the road. According to Green Mountain Engineering, the HDPE lines were directionally drilled and compression fittings are used to secure connections. It is possible that there is a weak connection in the distribution system serving 619 Route 109, which is allowing contamination to enter the main distribution line during minor pressure fluctuations.

Former water lines were located on the west side of the road between Church Street and 619 Rt. 109, before crossing Route 109 to the Waterville Garage, where they continued north generally near the former UST area. Utilities lines are common preferential pathways for contaminant migration, due to the disturbed sandy soil typically surrounding underground lines. The former water line crosses under Route 109 from the northeast corner of 619 Rt. 109 to the Waterville Garage property. The multiple junctions at the southwest corner of the Waterville Garage (634 Route 109) may be a weak spot in the distribution system.

4.0 CONCLUSIONS & RECOMMENDATIONS

Based on the results of the subsurface investigation, ECS concludes the following:

- Hager-Richter Geoscience, Inc. (H-R) conducted a geophysical survey to locate old and new water lines and possible USTs at locations at selected PSOCs. A possible UST was located southeast of the white barn at 619 Route 109.

- Research at the Town Clerks office confirmed the presence of USTs at 619 Route 109 as listed in a 1938 deed as property of the Gulf Oil Corporation. ECS has only acquired anecdotal evidence of gasoline fueling at 598 Route 109.

- Gasoline USTs were present at the Waterville Garage (634 Route 109) from 1970 through 1992. USTs were found to be leaking; however, no overburden groundwater was detected above bedrock in the vicinity of the former tanks in one soil boring (Griffin, 1994). Historical floor drain discharges south of the Waterville Garage are another potential source of VOCs in the contaminated area.

- ECS supervised the completion of 21 soil borings and screened soil samples using a PID to determine the location of contaminants along the water system distribution lines north of approximately 570 Route 109. Soil borings were advanced to a maximum depth of approximately 15 feet.

- Surficial soils to approximately five feet bgs generally consisted of sand and silt with coarse sand and gravel. Soils from five to fifteen feet bgs consisted of fine sand and silt lenses. Soils were moist, especially noted at silty lenses, but evidence of the surficial groundwater table was not observed; however, soil borings were not advanced beyond 15 feet bgs.

- Elevated PID readings (> 200 ppm) were obtained from soil samples collected from nine soil borings. The highest PID reading was 703 ppm, which was detected in a soil sample located north of 619 Route 109. The highest PID readings in all nine borings were between approximately 4 and 10 feet bgs. PID readings in all soil borings north of the Waterville Garage property were at background concentrations (0.1 to 0.0 ppm).

- Two soil samples were collected from borings at 598 Route 109 (SB-1) and 619 Route 109 (SB-6). VOCs were detected in both soil samples at concentrations above the Regional Screening Level (RSL) for residential soils. Ethylbenzene concentrations exceeded the RSL for industrial soils at SB-6. TPH concentrations exceeded the Vermont Soil Screening Value for industrial soils of 1,000 milligrams per kilogram (mg/kg). ECS subcontractor laboratory, Spectrum Analytical, Inc., reviewed the data and provided a professional opinion that the samples appeared to be representative of weathered gasoline.

- ECS collected water distribution system samples from seven locations along Route 109. Ortho-chlorotoluene (2-) and para-chlorotoluene (4-) were detected at 619 Route 109 at concentrations of 13.2 micrograms per liter (µg/L) and 5.03 µg/L, respectively, which are below the VGES of 100 µg/L. No VOCs were detected at the other sampled locations.

- VOCs are likely entering the Waterville Fire District 1 water distribution system between 598 Route 109 and 634 Route 109 with elevated PID readings on both sides of Route 109. PSOCs include the Waterville Garage, an active automotive maintenance facility and former gasoline station, and historical gasoline fueling at 619 Route 109 and 598 Route 109. Utilities lines are common preferential pathways for contaminant migration, due to the disturbed sandy soil typically surrounding underground lines.

Based on the conclusions stated above, ECS recommends the following:

1. Excavation of vulnerable water line connection areas: (a) the curb stop for 619 Route 109 on the west side of Route 109 and (b) the junction with multiple connections on the east side of Route 109 between the Waterville Garage and 600 Route 109. A turbo vactor can safely expose the water connections and remove surrounding contaminated soils for proper disposal.

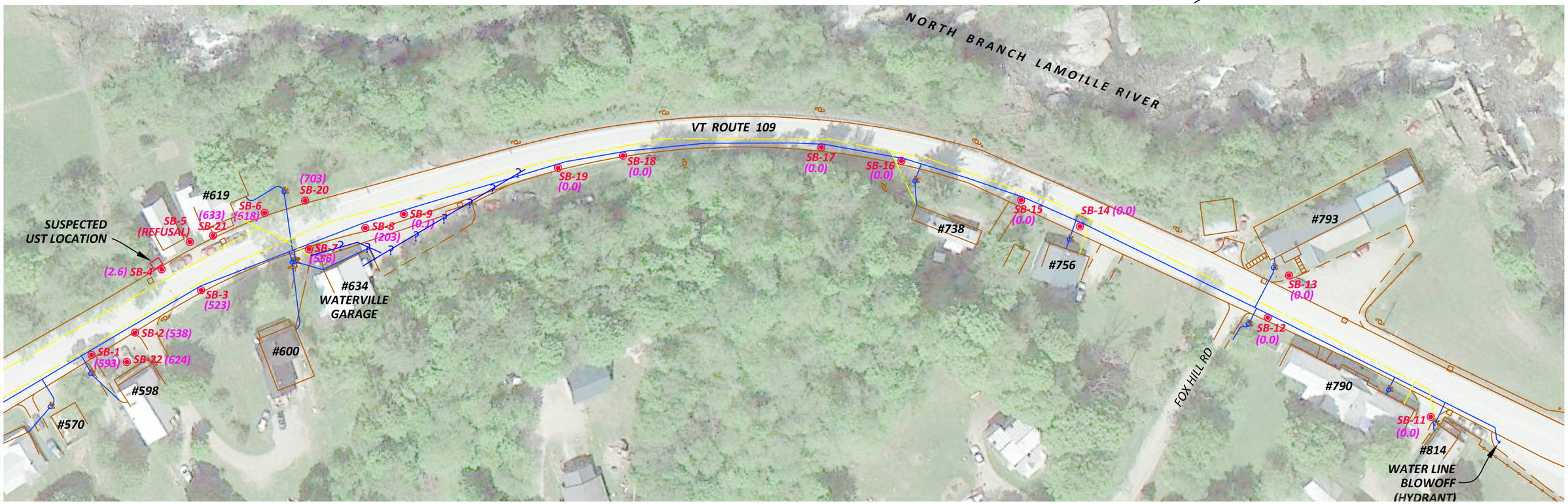
2. Make repairs to connections as necessary and protect vulnerable components from known contaminated soils. The water system can work with the DWGPD on appropriate safeguards, such as secondary containment, bentonite lining within excavation, or concrete manhole. After repairs are made, resampling at previous VOC-impacted locations is recommended.

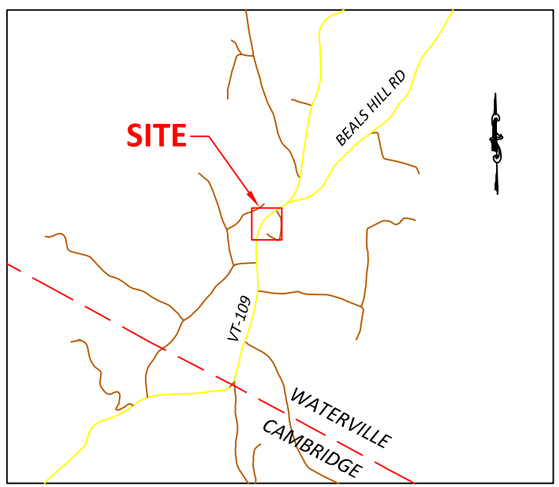
3. Remove the probable UST from 619 Route 109 and conduct a site investigation in the location of the UST and former dispenser island. This would include a soil and groundwater investigation, sensitive receptor survey and vapor intrusion survey. A determination should be made into the responsible party given the deed reference to Gulf Oil Corporation.

4. Additional investigation is warranted at the Waterville Garage property (634 Route 109). Gasoline contamination west of the building and possibly extending west under Route 109 may be the result of contamination from the former USTs or floor drain discharges south of the building. Preferential pathways along utility corridors (old and new water lines) should be considered in this investigation.

5. Based on the PID readings in soil borings at 598 Route 109, it appears that the contamination noted in this location (SB-1, SB-2, and SB-22) is elevated at the approximate depth of the water lines (both old and new) and then decreases. Additional soil borings are recommended in this area to delineate the vertical and horizontal extent of contamination; however, preferential flow along the utility corridors from the Waterville Garage property is possible.

FIGURES





LOCATION MAP
NOT TO SCALE

80 0 40 80 160 320

(IN FEET)
1 inch = 80 ft.

LEGEND

- ABANDONED WATER LINE
- CURRENT EXISTING WATER LINE
- SB SOIL BORING
- (203) PID READING (ppm)
- #570 ADDRESS ON ROUTE 109
- ? ? UNKNOWN OLD WATER LINE

NOTES

SOIL BORINGS BY ECS, LOCATED BY SUB-METER GPS ON 1/23/14.

WATER LINE LOCATIONS ARE FROM PLAN BY GREEN MOUNTAIN ENGINEERING AND FIELD GEOPHYSICAL SURVEY.

ecs
1 Elm Street, Suite 3, Waterbury, VT
Phone: 1-800-520-6065 Fax: 802-434-5076

PROJECT:
WATERVILLE FIRE DISTRICT 1
WATERVILLE, VERMONT

TITLE:
VOC INVESTIGATION

CLIENT:
VT DEC

COMPUTER CADFILE : WATERVILLE.dwg

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
S.M.S.		L.W.	E.U.
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
NOTED	2-18-14	08-221182.00	1

TABLES

Table 1 - Summary of Groundwater VOCs

Waterville Fire District #1

Sample Date: January 23, 2014

	VOCs by EPA Method 524.2 in ug/L or ppb				
Sample Location	Benzene	2-Chlorotoluene	4-Chlorotoluene	**Notes: Hydrant was flushing during sample collection due to freezing temperatures.**	Free Chlorine (mg/L)
570 Rt. 109	BRL<0.50	BRL<0.50	BRL<0.50		0.9
598 Rt. 109	BRL<0.50	BRL<0.50	BRL<0.50		1.06
600 Rt. 109	BRL<0.50	BRL<0.50	BRL<0.50		1.03
619 Rt. 109	BRL<0.50	**13.2**	**5.03**		1.09
634 Rt. 109	BRL<0.50	BRL<0.50	BRL<0.50	Waterville Garage	1.01
738 Rt. 109	BRL<0.50	BRL<0.50	BRL<0.50		1.02
756 Rt. 109	NS	NS	NS	Nobody home and spigot was off	--
793 Rt. 109	BRL<0.50	BRL<0.50	BRL<0.50		1.11
Trip Blank	BRL<0.50	BRL<0.50	BRL<0.50	QAQC	--
VAL	1.0	-	-		
VHA	-	100.0	100.0	Vermont Groundwater Enforement Standards	
MCL	5.0	-	-		

Notes:

VOCs - volatile organic compounds

ug/L - micrograms per liter

ppb - parts per billion

VHA - Vermont Health Advisory

VAL - Vermont Action Levels

MCL - Maximum Contaminant Levels

Free chlorine measured with a field test kit in mg/L - milligrams per liter

Table 2 - Waterville Subsurface VOC Investigation
Summary of Soil Sample Results

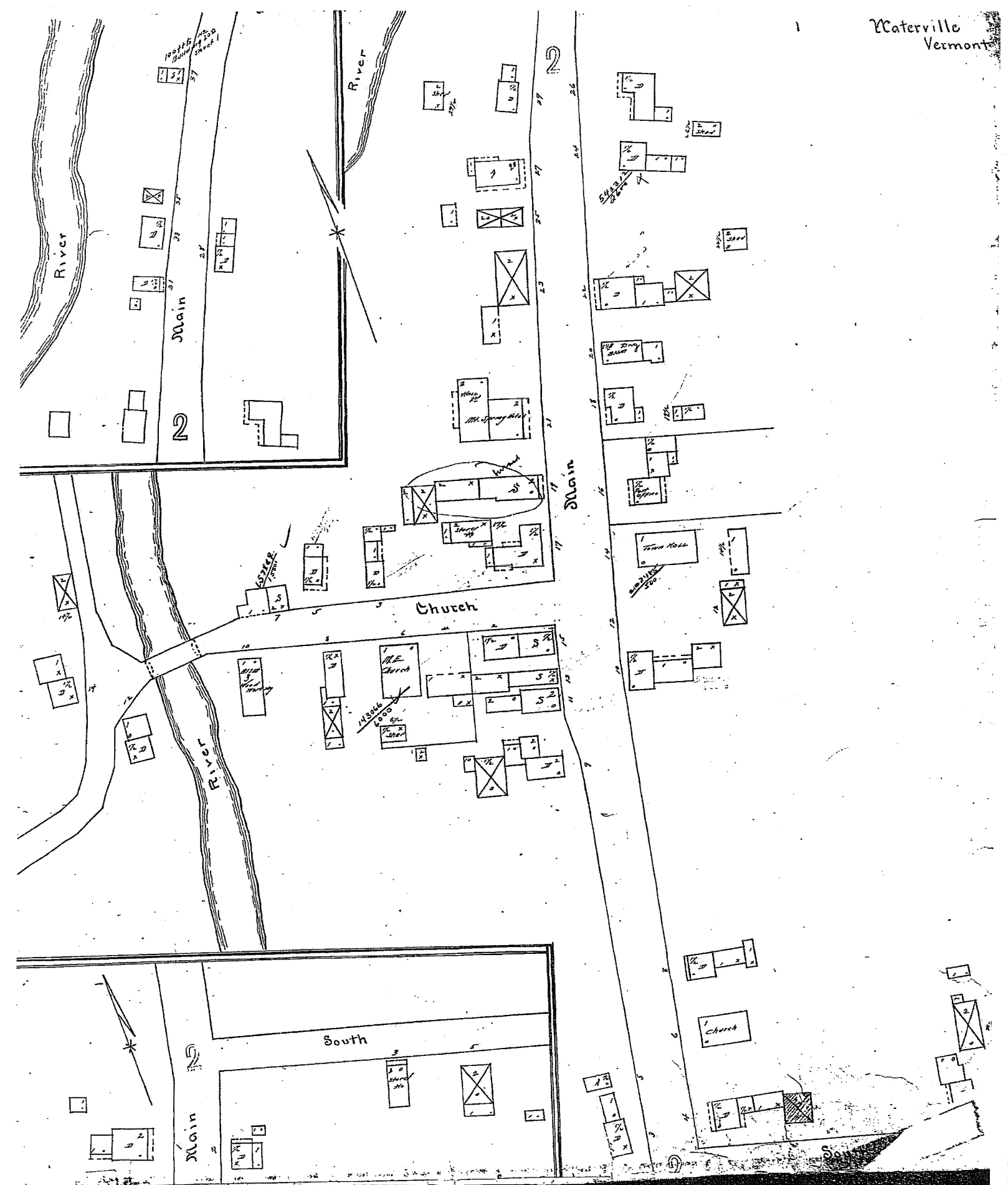
ECS Project #08-221182.00

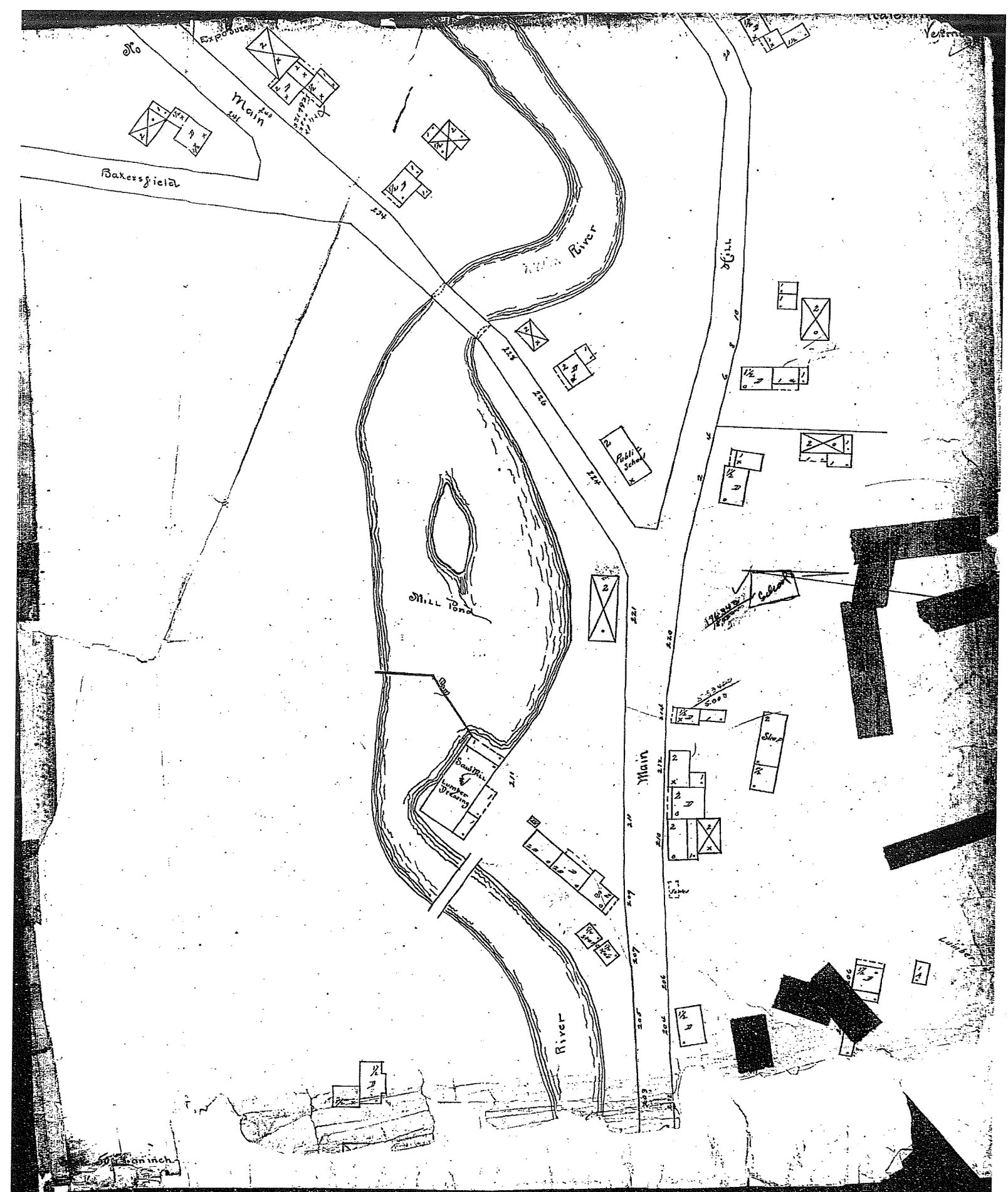
Soil Sample ID			SB-1	SB-6
	Date		1/10/2014	1/10/2014
	Depth (feet)		~8	~5
	EPA RSLs - May 2013		Vicinity of 619 Rt 109	Vicinity of 598 Rt 109
Compound	Residential	Industrial		
VOCs by EPA Method 8260 (ug/Kg)				
Benzene	*1,100*	*5,400*	ND<1200	**4,100**
n-Butylbenzene	*39,000,000*	*51,000,000*	**4,560**	**7,220**
sec-Butylbenzene	*7,800,000*	*100,000,000*	**2,680**	ND<2280
Ethylbenzene	*5,400*	*27,000*	**14,800**	**55,400**
Isopropylbenzene	--	--	**5,460**	**5,580**
4-Isopropyltoluene	--	--	**5,360**	ND<2280
Naphthalene	*3,600*	*18,000*	**13,100**	**9,910**
n-Propylbenzene	--	--	**8,530**	**21,300**
Toluene	*5,000,000*	*45,000,000*	**6,220**	**132,000**
1,2,4-Trimethylbenzene	*62,000*	*260,000*	**68,900**	**136,000**
1,3,5-Trimethylbenzene	*78,000*	*10,000,000*	**30,600**	**44,000**
Xylenes (total)	*630,000*	*2,700,000*	**94,800**	**311,100**
TPH by EPA Method 8100 (mg/Kg)				
Identified as Lingroin	*200**	*1000**	**5,970**	**3,670**
Metals by EPA Method 6010C (mg/Kg)				
Lead	*400*	*800*	**11.8**	**6.35**

Notes:
VOC - volatile organic compound
TPH - total petroleum hydrocarbons
RSL - EPA Regional Screening Levels
ug/mg - Microgram per Kilogram
mg/Kg - Milligrams per Kilogram
ND - not detected to detection limit shown
Highlighted values represent an exceedance of industrial RSLs.
Grey values represent an exceedance of residential RSLs.
* TPH results compared to VT DEC Soil Screening Values

APPENDIX A

EDR SANBORN MAPS


Waterville
Vermont
River
Main
Church
South
REVISINO DATE UNKNOWN



REVISINO DATE UNKNOWN

Sanborn Map Legend

"Linking technology with tradition"®

TILE 1st / BRICK 1st / PYROBAR 1st — Fire proof construction (OR FIRE RESISTIVE CONST'N)

ADOBE — Adobe building

HEIGHT OF BUILDING IN FEET FROM GROUND TO ROOF LINE 57' — Stone building

(C.BR.) — Concrete, lime, cinder or cement brick

(C.B.) — Hollow concrete or cement block const'n

(CONC.) — Concrete or reinforced concrete const'n

(TILE) — Tile building

NUMBER OF STORIES 4 — Brick building with frame cornice

TWO STORIES 2S AND BSMT COMPOSITION ROOF — Brick building with stone front

SHINGLE ROOF X — Brick building with frame side (DIVIDED BY FRAME PARTITION)

(VEN'D) — Brick veneered building

BRICK 1st — Brick and frame building

FRAME, BRICK LINED — Frame building, brick lined

F = FLAT S = STORE — Frame building, metal clad

D = DWELLING — Frame building

A in B = AUTO. IN BSMT — Iron building

LOFT — Tenant building occupied by various manufacturing or occupancies

(ASB.CL.) — Frame building covered with asbestos

NON COMBUSTIBLE ROOF COVERING OF METAL, SLATE, TILE OR ASBESTOS SHINGLES O — Brick building with brick or metal cornice

SKYLIGHT LIGHTING TOP STORY ONLY — Fire wall 6 inches above roof

3. SKYLIGHT LIGHTING THREE STORIES — Fire wall 12 inches above roof

W.G. WIRED GLASS SKYLIGHT — Fire wall 18 inches above roof

Fire wall 36 inches above roof

48 — Fire wall 48 inches above roof

Figures 8,12,16 indicate thickness of wall in inches

Wall without opening and size in inches

2 3 4 5 A L — Wall with openings on floors as designated

Opening with single iron or tin clad door

Opening with double iron or tin clad doors

Opening with standard fire doors

Openings with wired glass doors

WT WATER TANK

BRICK 1st — Drive or passage way

Stable

A. — Auto. (House or private garage)

(C.B.) / (C.B. & BR.) — Solid brick with interior walls of C.B. or C.B. and brick mixed

C.B. & BR. CONST'N ∞ — Mixed construction of C.B. and brick with one wall of solid brick.

C.B. & BR. CONST'N (BR. FACED) — Mixed construction of C.B. and brick with one wall faced with 4" brick.

C.B. & BR. CONST'N — Mixed construction of C.B. and brick throughout.

MANSARD ROOF

DOTS REPRESENT OPENINGS, STEMS INDICATE STORIES, COUNTING FROM LEFT TO RIGHT, LOOKING TOWARD BUILDING

Window opening in first story.

Window openings in second and third stories.

Window openings in second, fourth stories.

Windows with wired glass.

Windows with iron or tin clad shutters.

10 TO 22 — Window openings tenth to twenty-second stories

6" W.PIPE — Water pipes and size in inches.

6" W.PIPE (PRIVATE) — Water pipes of private supply

2 D 0 / 416 56 — House numbers shown nearest to buildings are official or actually up on buildings.

Old house numbers shown furthest from buildings.

FP-1962 (conc.) A-1a — A fire-resistive building built in 1962 with concrete walls and reinforced concrete frame, floors and roof.

FPX-1962 (METAL PANELS) E-2-b NONCOMB CEIL'G — A fire-resistive building built in 1962 with metal panel walls, indirectly protected steel frame, concrete floors and roof on metal lath, noncombustible ceilings.

NC-1962 (C.B.) H-2-d — A noncombustible building built in 1962 with concrete block walls; unprotected steel columns and beams; concrete floors on metal lath and steel deck roof.

BLOCK / CURB LINE / 50' / LINE

Width of street (BETWEEN BLOCK LINES, NOT CURB LINES.)

24 — Reference to adjoining page.

\+ — Fire engine house, as shown on key map.

Fire pump.

(36) — Under page number refers to corresponding page of previous edition.

E — Open elevator.

FE — Frame enclosed elevator.

ET — Frame enclosed elevator with traps.

ESC — Frame enclosed elevator with self closing traps.

CRET — Concrete block enclosed elevator with traps.

TESC — Tile enclosed elevator with self closing traps.

BE — Brick enclosed elevator with wired glass door.

5 — Block number.

V.P. — Vertical pipe or stand pipe.

AFA — Automatic fire alarm.

IEP — Independent electric plant.

AS — Automatic sprinklers.

ACS — Automtc. chemical sprinklers.

A.S. 1ST ONLY — Automatic sprinklers in part of building only. (NOTE UNDER SYMBOL INDICATES PROTECTED PORTION OF BUILDING)

NS — Not sprinklered.

O.P. — Outside vertical pipe on fire escape.

FA — Fire alarm box.

Single hydrant.

D.H. — Double hydrant.

T.H. — Triple hydrant.

Q.H. H.P.F.S. — Quadruple hydrant of the "High Pressure Fire Service."

FA H.P.F.S. — Fire alarm box of the "High Pressure Fire Service"

20"W.Pipe (H.P.F.S.) — Water pipes of the "High Pressure Fire Service"

+ + 12" + + — Water pipes and hydrants of the "High Pressure Fire Service" as shown on key map.

IR. CH. — Iron chimney

Iron chimney (WITH SPARK ARRESTOR)

IR. CH.S.A.

Brck. chmny.

15 — Ground elevation

V.P. & — Vertical steam boiler

G.T. — Gasoline tank

(O.U.) — Open under

Siamese fire dept. connection

Single fire dept. connection.

CODING OF STRUCTURAL UNITS FOR FIREPROOF AND NON-COMBUSTIBLE BUILDINGS

FRAMING

CODE	STRUCTURAL UNIT
A.	Reinforced Concrete Frame.
B.	Reinforced Concrete Joists, Columns, Beams, Trusses, Arches, Masonry Piers.
C.	Protected Steel Frame.
D.	Individually Protected Steel Joists, Columns, Beams, Trusses, Arches.
E.	Indirectly Protected Steel Frame.
F.	Indirectly Protected Steel Joists, Columns, Beams, Trusses, Arches.
G.	Unprotected Steel Frame.
H.	Unprotected Steel Joists, Columns, Beams, Trusses, Arches.
O.	Masonry Bearing Walls.

The coding for framing, floor and roof structural units as shown above is used in describing the construction of fire-resistive buildings. In addition, reports for fire-resistive buildings will show the date built and wall construction when other than brick.

FP buildings have masonry floors and roof; concrete and/or directly or indirectly protected steel framing; and clay brick, stone or poured concrete walls.

FPX buildings are FP buildings with inferior walls such as concrete block, cement brick, metal or glass panels, etc.

NC buildings have unprotected steel framing and fire-resistive but non-masonry floors and roof.

FLOORS

CODE	STRUCTURAL UNIT
1.	Reinforced Concrete. Reinforced Concrete with Masonry Units. Pre-cast Concrete or Gypsum Slabs or Planks.
2.	Concrete on Metal Lath, Incombustible Form Boards, Paper-backed Wire Fabric, Steel Deck, and Cellular, Ribbed or Corrugated Steel Units.
3.	Open Steel Deck or Grating.

LAND USE CODE APPLICABLE TO CHANGES DIAGRAMMED AFTER 5/69

R	RESIDENTIAL	M	MANUFACTURING
RT	RESIDENTIAL-TRANSIENT	P	PUBLIC OR INSTITUTIONAL
C	COMMERCIAL	U	UTILITY
W	WAREHOUSE	T	TRANSPORTATION

NUMERICAL PREFIX INDICATES THE NUMBER OF ESTABLISHMENTS IN EACH CATEGORY

ROOF

CODE	STRUCTURAL UNIT
a.	Reinforced Concrete. Reinforced Concrete with Masonry Units. Reinforced Gypsum Concrete. Pre-cast Concrete or Gypsum Slabs or Planks.
b.	Concrete or Gypsum on Metal Lath, Incombustible Form Boards, Paper-backed Wire Fabric, Steel Deck, and Cellular, Ribbed or Corrugated Steel Units.
c.	Incombustible Composition Boards with or without Insulation. Masonry or Metal Tiles.
d.	Steel Deck, Corrugated Metal or Asbestos Protected Metal with or without Insulation.

EDR Inc.
800.352.0050
www.edrnet.com

Sanborn Map Abbreviations

"Linking technology with tradition"®

Abbreviation	Meaning
A	Automobile (usually designates the location of a garage)
A in B	Automobile located in basement
A S	Automatic sprinkler
Abv	Above
ACS	Automatic chemical sprinkler
AFA	Automatic fire alarm
Agr	Agricultural
Appts	Apparatus
Apts	Apartments
Asb Cl	Asbestos clad
Att'd	Attended
Aud'it'm	Auditorium
Auto Ho	Automobile house, or garage
B	Basement, boiler or occasionally brick
B&S	Boots and shoes
BPOE	Benevolent & Protective Order of Elks
B Sm	Blacksmith
B'ld'g	Building
B'lr.	Boiler
B's't	Basement
Bak'y	Bakery
Balc	Balcony
Bap	Baptist
Bbl	Barrel
Bbls	Barrels
BE	Brick enclosed elevator
Bill'ds	Billiards
Bl Sm	Blacksmith
Blk Sm	Blacksmith
Bst	Basement
C B	Cement brick or concrete block construction
C Br	Concrete brick or cement block construction
Cap'cy	Capacity
Carptr	Carpenter
CBET	Concrete enclosed elevator with traps
Chem	Chemical
Chinaw	Chinaware or porcelain
Chine	Chinese
Cl	Clad
Clo	Clothing
Co	Company
Comp	Composition construction (i.e. stucco) or compressor
Conc	Concrete
Conf'y	Confectionary (candy store)
Confec'y	Confectionary (candy store)
Constr'n	Construction
Corp'n	Corporation
D	Dwelling
DH	Double (fire) hydrant
DG	Dry goods
Drs	Doctor's office
Dwg	Dwelling
E	Open elevator
E Fl	Each Floor
El	Electric
Elec	Electrician
Eng	Engine
Ent	Entertainment
Episc'l	Episcopal
ESC	Elevator with self-closing traps
ET	Elevator with traps
Exch	Telephone exchange
Expr	Express (as used to designate a delivery service)
F	Flat (as used to designate a delivery service)
FA	Fire alarm
FE	Fire escape
F Pump	Fire pump
Fill'g Sta	Filling station, or gas station
Fl	Floor
Fr Attic	Frame constructed attic
Frat	Fraternity
Fur	Furnishings
Furn'g	Furnishings
Furne	Furniture
GAR	Grand Army of the Republic
GT	Gasoline tank
Gal	Gallery
Gall	Gallery
Gall'y	Gallery
Gen'l	General (as used to designate a general store)
Gents	Gentlemen's
Greas'g	Greasing
Gro	Grocery or groceries

Abbreviation	Meaning
HPFS	High pressure fire service
H'dw	Hardware
Hack	Hackney or delivery service
Hardw	Hardware
Ho	Hotel or house (as used to designate a warehouse)
Htr	Heater
Hyd	Hydrant
ICRR	Illinois Central Railroad
Imp	Implements
Ins	Insurance
Insts	Instruments
Ir Cl	Iron clad
K of C	Knights of Columbus
Lab	Laboratory
Lodg'g	Lodging
Luth	Lutheran
Luth'n	Lutheran
ME	Methodist Episcopal
Mach'y	Machinery
Mak'r	Maker
Manf'y	Manufactory or factory
Mdse	Merchandise
Mfy	Manufactory or factory
Mill'y	Millinery
Mkg	Making
Mo	Motor
NS	Not sprinklered
OU	Open under
Off	Office
PO	Post office
Paint'g	Painting
Pat Med	Patent medicines
Plumb'g	Plumbing
Print'g	Printing
QH	Quadruple (fire) hydrant
RC	Roman Catholic
R'f	Roof
R'm	Room
Rep	Repair
Rep'g	Repairing
Repos'ry	Repository
Restr't	Restaurant
Rf	Roof
Rm	Room
S	Store
SA	Spark arrestor
S Vac	Store portion of building is vacant
Sal	Saloon
Sky'ts	Skylights
Sm	Smith, as in gunsmith or blacksmith
Sm Ho	Smokehouse
Sp'k'l'rs	Sprinklers
St'ge	Storage
St'y	Story
Sta	Station
Stat'y	Stationery
TH	Triple (fire) hydrant
Tel	Telephone
Tenem'ts	Tenements
TESC	Tile enclosed elevator with self-closing traps
Tinw	Tinware
Trimm'g	Trimming
U	Upright
Up	Upright
VP	Vertical pipe
Vac	Vacant
Ven'd	Veneered
Ven'r'd	Veneered
W	Ware, as in warehouse or wareroom
WC	Water closet or toilet
WG	Wire glass skylights
W Ho	Warehouse
WPA	Works Progress Administration
W'ks	Works
Whol	Wholesale
Wkg	Working
Woodwkg	Woodworking

APPENDIX B

HAGER-RICHTER GEOPHYSICAL REPORT

HAGER-RICHTER
GEOSCIENCE, INC.

GEOPHYSICAL SURVEY
598 & 619 VERMONT ROUTE 109
WATERVILLE, VERMONT

Prepared for:

Environmental Compliance Services, Inc.
1 Elm Street, Suite 3
Waterbury, Vermont 05676

Prepared by:

Hager-Richter Geoscience, Inc.
8 Industrial Way - D10
Salem, New Hampshire 03079

File 13J116
January, 2014

HAGER-RICHTER
GEOSCIENCE, INC.

CONSULTANTS IN GEOLOGY AND GEOPHYSICS
8 INDUSTRIAL WAY - D10
SALEM, NEW HAMPSHIRE 03079-5820
TELEPHONE (603) 893-9944
FAX (603) 893-8313

January 21, 2013
File 13J116

Laura Woodard
Hydrogeologist
Environmental Compliance Services, Inc.
1 Elm Street, Suite 3
Waterbury, Vermont 05676

Phn: (802) 241-4131
Fax: (802) 244-6894
Cell: (802) 338-5828
Email: LWoodard@ECSConsult.com

RE: Geophysical Survey
598 & 619 Vermont Route 109
Waterville, Vermont

Dear Ms. Woodard:

In this letter, we report the results of a geophysical survey conducted on December 31, 2013 and January 8, 2014 by Hager-Richter Geoscience, Inc. (Hager-Richter) at the above referenced site for Environmental Compliance Services, Inc. (ECS). The scope of the project and areas of interest were specified by ECS.

INTRODUCTION

The site consists of two residential properties and a portion of Vermont Route 109 in Waterville, Vermont. The two residential properties were located at 598 and 619 Route 109, and the portion of Route 109 surveyed was located between 598 Route 109 and 814 Route 109. Figure 1 shows the general site location.

Information provided by ECS indicated that the two residential properties were formerly the locations of gasoline service stations. As part of an environmental investigation of the municipal water supply system, ECS requested a geophysical survey a) to search for underground storage tanks (USTs) that might be present in the accessible portions of the two residential properties; and b) to locate water lines and service connections along a portion of Route 109. ECS specified that the locations of the water lines and service connections for objective b) be marked in the field at the time of the survey only.

The two areas of interest (AOIs) for the geophysical surveys searching for USTs were specified by ECS at the time of the survey as the accessible exterior portions along Route 109 of the two properties. Area 1 was located at 619 Route 109 and measured approximately 150 feet by 25 feet. Area 2 was located at 598 Route 109 and measured 65 feet by 25 feet. Ground conditions in the two AOIs were a combination of gravel and paved parking areas and a portion of the paved roadway. The AOI for locating the water line and service connections was

approximately 1,200 feet of Vermont Route 109, extending from 598 Route 109 north to 814 Route 109. Figure 2 is a site plan showing the locations of Areas 1 and 2.

OBJECTIVES

The objectives of the geophysical survey were: 1) to detect, and if detected, to locate USTs in the accessible portions of Areas 1 and 2; and 2) to detect, and if detected, to mark the positions of water lines and water service connections along a portion of Vermont Route 109 as specified by ECS.

THE SURVEY

Michael Howley, P.G., of Hager-Richter conducted the field operations on December 31, 2013 and January 8, 2014. The project was coordinated with Ms. Laura Woodard of ECS. Mr. Zack Clark and Mr. Jeff Girard, both also of ECS, were present for the duration of the survey and specified the areas of interest for the geophysical survey.

The geophysical survey was conducted using complementary geophysical methods: time domain electromagnetic induction (EM) and ground penetrating radar (GPR). The EM data were acquired at approximately 8-inch intervals along lines spaced no more than 5 feet apart across the accessible portions of Areas 1 and 2. The EM survey detects buried metal. However, the EM method cannot provide information on the type of objects causing the anomaly. The GPR survey was conducted along traverses oriented in two mutually perpendicular directions, with lines spaced no more than 5 feet apart across the accessible portions of Areas 1 and 2. The GPR method is capable of detecting both metal and nonmetal objects. The GPR method was also used to locate the positions of water lines and water service connections along a 1,200-foot section of Route 109. The positions of the detected water lines was marked on the ground at the time of the survey as directed by ECS, and are not included in this report.

EQUIPMENT

EM61. The EM survey was conducted using a Geonics EM61-MK2 time domain electromagnetic induction metal detector. The EM61-MK2 instrument was designed specifically for detecting buried metal objects such as USTs, drums, and utilities. An air-cored transmitter coil generates a pulsed primary magnetic field in the earth, thereby inducing eddy currents in nearby metal objects. The eddy current produces a secondary magnetic field that is sensed by two receiver coils, one coincident with the transmitter and one positioned 40 cm above the main coil. By measuring the secondary magnetic field after the current in the ground has dissipated but before the current in metal objects has dissipated, the instrument responds only to the secondary magnetic field produced by metal objects. Four channels of secondary response are measured in mV and are recorded on a digital data logger. The system is generally operated by

pushing the coils configured as a wagon with an odometer mounted on the axle to trigger the data logger automatically at approximately 8-inch intervals.

GPR. The GPR survey was conducted using a Sensors & Software Smart Cart Noggin Plus digital subsurface imaging radar system. The system includes a survey wheel that triggers the recording of the data at fixed intervals, thereby increasing the accuracy of the locations of features detected along the survey lines. The system was used with a 250 MHz antenna and a 60 nsec[1] time time window.

GPR uses a high-frequency electromagnetic pulse (referred to herein as "radar signal") transmitted from a radar antenna to probe the subsurface. The transmitted radar signals are reflected from subsurface interfaces of materials with contrasting electrical properties. Travel times of the radar signal can be converted to approximate depth below the surface by correlation with targets of known depths. GPR data acquisition is monitored in the field and the GPR data are digitally recorded for subsequent processing.

Data from the GPR survey were processed using EKKO_Mapper, commercially licensed GPR processing software from Sensors & Software, and the profile images were interpreted. Interpretation of the records is based on the nature and intensity of the reflected signals and on the resulting patterns.

LIMITATIONS OF THE METHODS

HAGER-RICHTER GEOSCIENCE, INC. MAKES NO GUARANTEE THAT ALL TARGETS OF INTEREST WERE DETECTED IN THIS SURVEY. HAGER-RICHTER GEOSCIENCE, INC. IS NOT RESPONSIBLE FOR DETECTING TARGETS OF INTEREST THAT NORMALLY CANNOT BE DETECTED BY THE METHODS EMPLOYED OR THAT COULD NOT BE DETECTED BECAUSE OF SITE CONDITIONS.

Field mark-outs. Utilities detected by the geophysical methods at the time of the survey are marked in the field, and the operator makes every attempt, field conditions permitting, to detect and mark as many utilities as possible at the time of the survey. Adverse weather and site conditions (rain, snow, snow and soil piles, uneven surfaces, high traffic, etc.) can hamper in-field interpretation. Utility mark-outs made on wet pavement, snow, snow piles, gravel surfaces, or in active construction zones may not last. Hager-Richter Geoscience, Inc. is not responsible for maintaining utility mark-outs after leaving the work area.

[1]ns, abbreviation for nanosecond, 1/1,000,000,000 second. Light and the GPR signal require about 1 ns to travel 1 ft in air. The GPR signal requires about 3.5 ns to travel 1 ft in unsaturated sandy soil.

EM61. The EM61 cannot detect non-metallic objects. The data from an EM61 survey are adversely affected by surface metal. The EM61 has a depth sensitivity limited to about 12 feet. The instrument is relatively cumbersome, and works best where the transmit and receive coils can be hand pulled in a small trailer.

Detection and identification should be clearly differentiated. Detection is the recognition of the presence of a metal object, and the electromagnetic method is excellent for such purposes. Identification, on the other hand, is determination of the nature of the causative body (i.e., what is the body -- a cache of drums, UST, automobile, white goods, etc.?). Although the EM61 data cannot be used to *identify* all buried metal objects, they provide excellent guides to the identification of some objects. For example, buried metal utilities produce anomalies with lengths many times their widths.

GPR. There are limitations of the GPR technique as used to detect and/or locate targets such as those of the objectives of this survey. Limitations include: (1) surface conditions, (2) electrical conductivity of the ground, (3) contrast of the electrical properties of the target and the surrounding soil, and (4) spacing of the traverses. Of these restrictions, only the last is controllable by us.

The condition of the ground surface can affect the quality of the GPR data and the depth of penetration of the GPR signal. Sites covered with snow piles, high grass, bushes, landscape structures, debris, obstacles, soil mounds, etc. limit the survey access and the coupling of the GPR antenna with the ground. In many cases, the GPR signal will not penetrate below concrete pavement, especially inside buildings, and a target may not be detectable. The GPR method also commonly does not provide useful data under canopies found at some facilities.

The electrical conductivity of the ground determines the attenuation of the GPR signal and thereby limits the maximum depth of exploration. For example, the GPR signal does not penetrate clay-rich soils, and targets buried in clay might not be detected.

A definite contrast in the electrical conductivities of the surrounding ground and the target material is required to obtain a reflection of the GPR signal. If the contrast is too small, possibly due to construction details or deeply corroded metal in the target, then the reflection may be too weak to recognize and the target can be missed.

Spacing of the traverses is limited by access at many sites, but where flexibility of traverse spacing is possible, the spacing is adjusted to the size of the target. The GPR operator controls the spacing between lines, and the design of the survey is based on the dimensions of the smallest feature of interest. Targets with dimensions smaller than the spacing between GPR survey lines can be missed.

RESULTS

The geophysical survey was conducted using the time domain electromagnetic induction (EM) and ground penetrating radar (GPR) methods across the accessible portions of Areas 1 and 2 specified by ECS. Color contour plots of the EM data as well as the locations of the GPR traverses and the integrated interpretation of the geophysical results are shown in Figures 3 and 4 for Areas 1 and 2, respectively.

EM. Interpretation of EM data is based on the *relative* response of the instrument in millivolts to local conditions. The instrument is not calibrated to provide an absolute measure of a particular property, such as the conductivity of the soil or the strength of the earth's magnetic field. Subsurface metal objects produce sharply defined positive anomalies when the EM61 is positioned directly over them. Acquiring data at short intervals along closely spaced lines, as was done at the subject site, provides high spatial resolution of the location and footprint of the targets. Thus, buried metal is recognized in contour plots of EM data by positive anomalies roughly corresponding to the dimensions of the buried metal.

Several high-amplitude EM anomalies are evident in the color contour plots of the EM data for Area 1, shown in Figure 3. Some such anomalies are attributed to surface features such as a catch basin, a parked vehicle, and several metallic objects. The locations of EM anomalies attributed to surface features are shown as blue hatched areas in Figure 3. We note that the presence or absence of subsurface metal objects in such areas cannot be determined on the basis of the EM data alone due to interference from the anomaly caused by the surface metal objects.

A single high-amplitude EM anomaly not attributed to surface features is evident in the plot of EM results for the southern end of Area 1. The large, high-amplitude EM anomaly detected is consistent with the presence of an underground storage tank. The location of the detected UST in Area 1 is shown on Figure 3.

Multiple low-amplitude EM anomalies are evident in the color contour plots of the EM data for Areas 1 and 2 (Figures 3, and 4, respectively). One such EM anomaly in Area 1 is attributed to a metallic drain line. The location of the drain line is indicated on Figure 3.

GPR. The GPR survey was conducted across the accessible portions of Areas 1 and 2. GPR data were acquired along traverses spaced 5 feet apart and oriented in two mutually perpendicular directions, as access allowed. The locations of the GPR traverses and our integrated interpretation of the geophysical data for Areas 1 and 2 are shown in Figures 3 and 4, respectively.

The GPR method was also used in the 1,200-foot long section of Route 109 for locating and marking the positions of water lines and service connections. The locations of the detected

water lines and service connections were marked on the ground at the time of the survey as directed by ECS, and are not included in this report.

Apparent GPR signal penetration was generally fair to good for most of the areas surveyed, with two-way traveltime reflections received from 40 - 50 nsec. Based on handbook time-to-depth conversions for the GPR signal in average soils, the GPR signal penetration is estimated to have been about 6 - 8 feet.

GPR reflections consistent with the presence of a possible UST are present in the records for the southern end of Area 1. The location of the possible UST is shown on Figure 3. No USTs were detected within Area 2.

Several utilities interpreted to be storm drains, water lines and water service connections were detected on the basis of GPR records for Areas 1 and 2, and their locations are shown on Figures 3 and 4, respectively. The detected water lines and service connections are located at or near the locations of water lines and service connections indicated by the as-built engineer's plans supplied by ECS.

CONCLUSIONS

Based on the geophysical survey performed by Hager-Richter Geoscience at 598 & 619 Route 109 and a 1,200 foot long portion of Route 109 in Waterville, Vermont for Environmental Compliance Services, Inc., we conclude that:

- A possible UST was detected at the southern end of Area 1 (619 Route 109).
- No USTs were detected in Area 2 (598 Route 109).
- No other UST with: (1) electrical properties sufficiently contrasting with the surrounding soils to produce EM anomalies, or (2) a capacity of 500 gallons or more was detected within the effective depth of penetration of the GPR signal (from 5 to 8 feet) in the surveyed area. *Whether a UST occurs at a depth greater than the effective depth of penetration of the GPR signal or in areas inaccessible to the geophysical survey cannot be determined from the geophysical data.*
- Several utilities interpreted to be storm drain lines, water lines, and water service connections were detected in Areas 1 and 2.
- The positions of water lines and service connections were determined and marked on the ground along a 1,200-foot section of Vermont Route 109.

LIMITATIONS ON THE USE OF THIS REPORT

This letter report was prepared for the exclusive use of Environmental Compliance Services, Inc. (Client). No other party shall be entitled to rely on this Report or any information, documents, records, data, interpretations, advice or opinions given to Client by Hager-Richter Geoscience, Inc. (Hager-Richter) in the performance of its work. The Report relates solely to the specific project for which Hager-Richter has been retained and shall not be used or relied upon by Client or any third party for any variation or extension of this project, any other project or any other purpose without the express written permission of Hager-Richter. Any unpermitted use by Client or any third party shall be at Client's or such third party's own risk and without any liability to Hager-Richter.

The detection of subsurface utilities and/or other subsurface objects was not an objective of this survey, and the survey was not designed to detect such. However, some utilities and/or other subsurface objects were detected and their locations are provided as a courtesy. Other utilities and/or other subsurface objects may be present and the Client or any third party shall not rely on this report for information on such.

Hager-Richter has used reasonable care, skill, competence and judgment in the performance of its services for this project consistent with professional standards for those providing similar services at the same time, in the same locale, and under like circumstances. Unless otherwise stated, the work performed by Hager-Richter should be understood to be exploratory and interpretational in character and any results, findings or recommendations contained in this Report or resulting from the work proposed may include decisions which are judgmental in nature and not necessarily based solely on pure science or engineering. It should be noted that our conclusions might be modified if subsurface conditions were better delineated with additional subsurface exploration including, but not limited to, test pits, soil borings with collection of soil and water samples, and laboratory testing.

Except as expressly provided in this limitations section, Hager-Richter makes no other representation or warranty of any kind whatsoever, oral or written, expressed or implied; and all implied warranties of merchantability and fitness for a particular purpose, are hereby disclaimed.

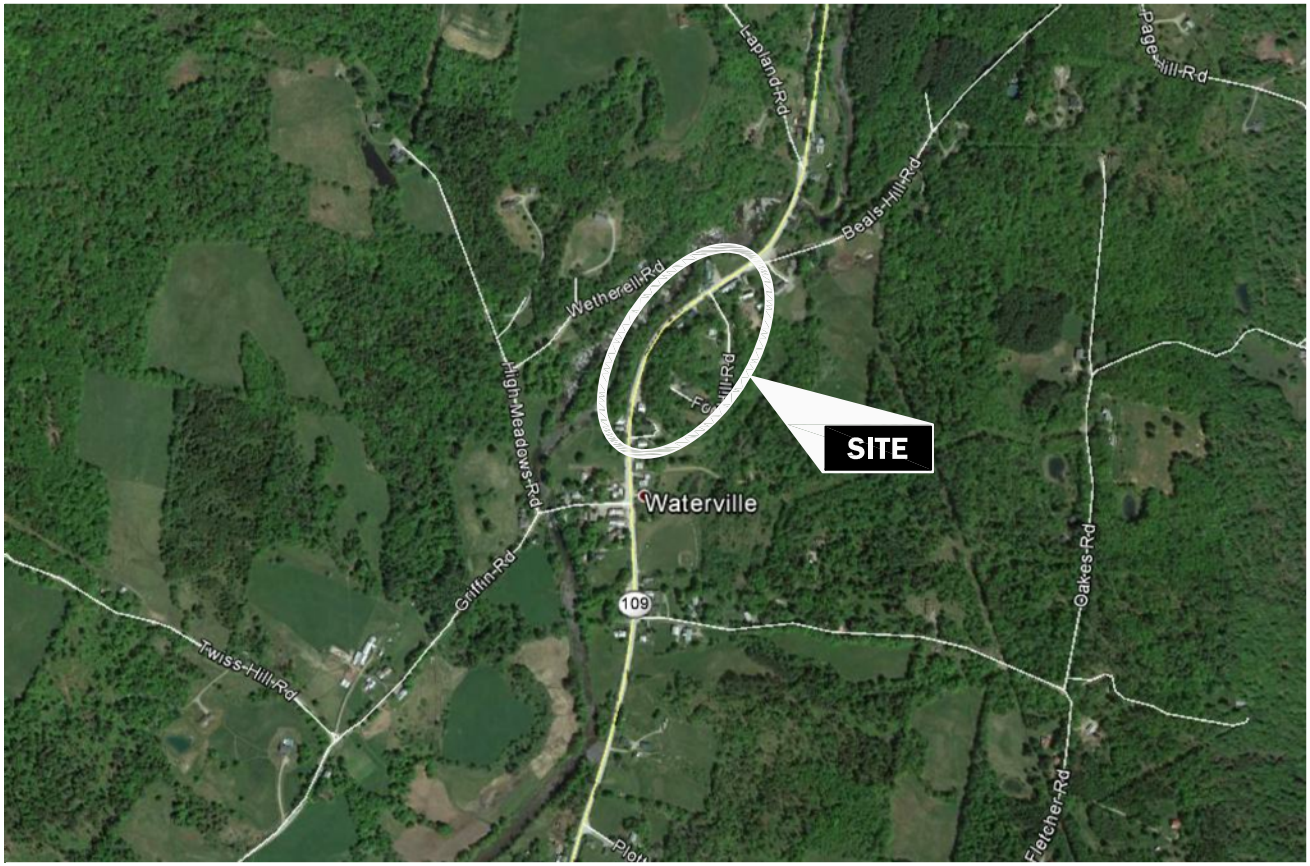
If you have any questions or comments on this letter report, please contact us at your convenience. We look forward to working with you again in the future.

Sincerely yours,
HAGER-RICHTER GEOSCIENCE, INC.

Michael Howley, P.G.
Geophysicist

Dorothy Richter, P.G.
President

Attachments: Figures 1-4



N

H-R

APPROXIMATE SCALE (feet)

0 1000 2000

VT

LOCATION

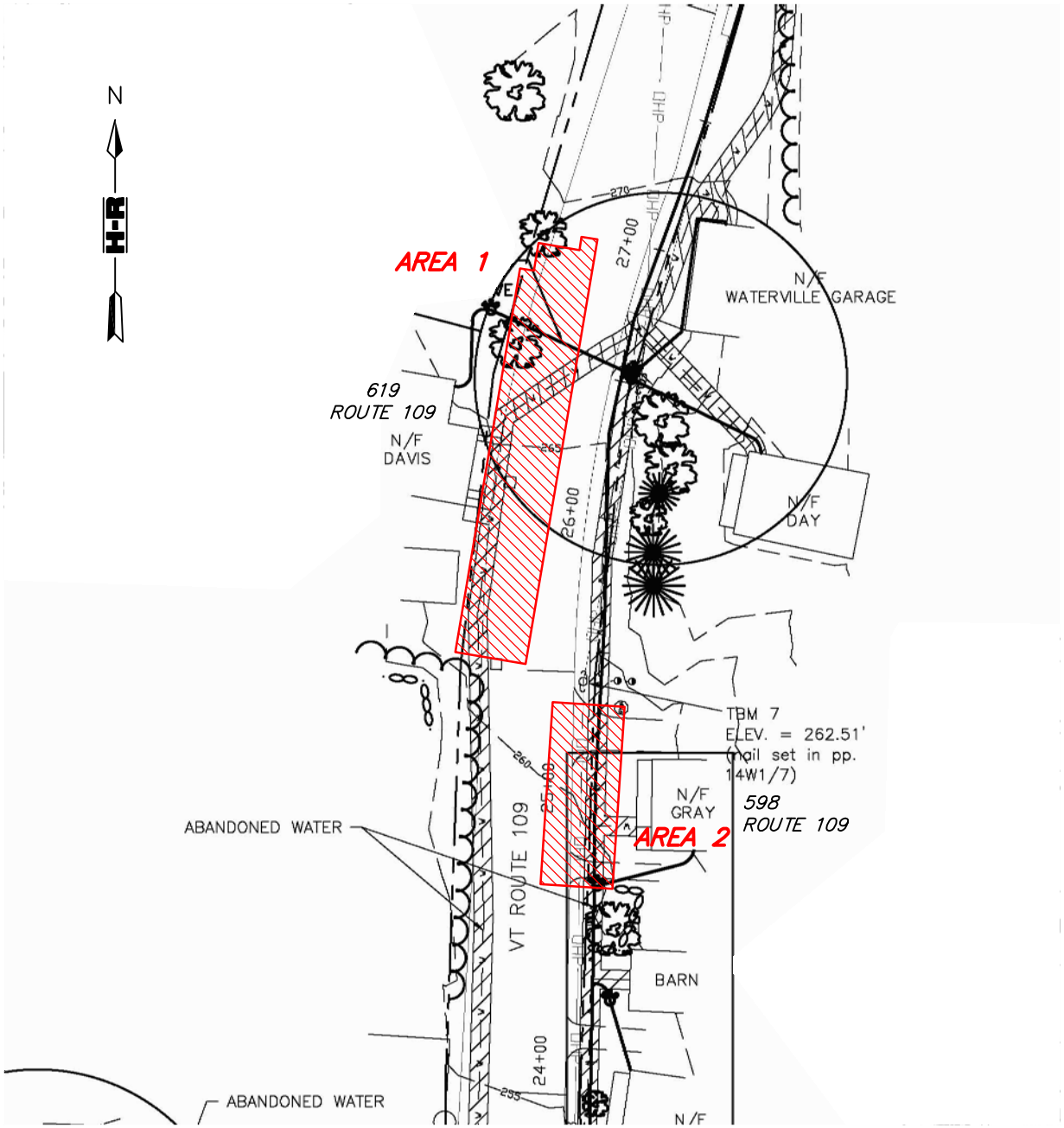
NOTE:

Modified from Google Earth Pro aerial photograph.

Figure 1
General Site Location
598 & 619 Route 109
Waterville, Vermont

File 13J116 | January, 2014

HAGER–RICHTER GEOSCIENCE, INC.
Salem, New Hampshire



LEGEND

APPROXIMATE LIMITS OF GPR SURVEY AREA

SCALE (feet)

0 60 120

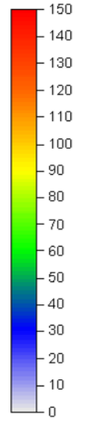
NOTE:

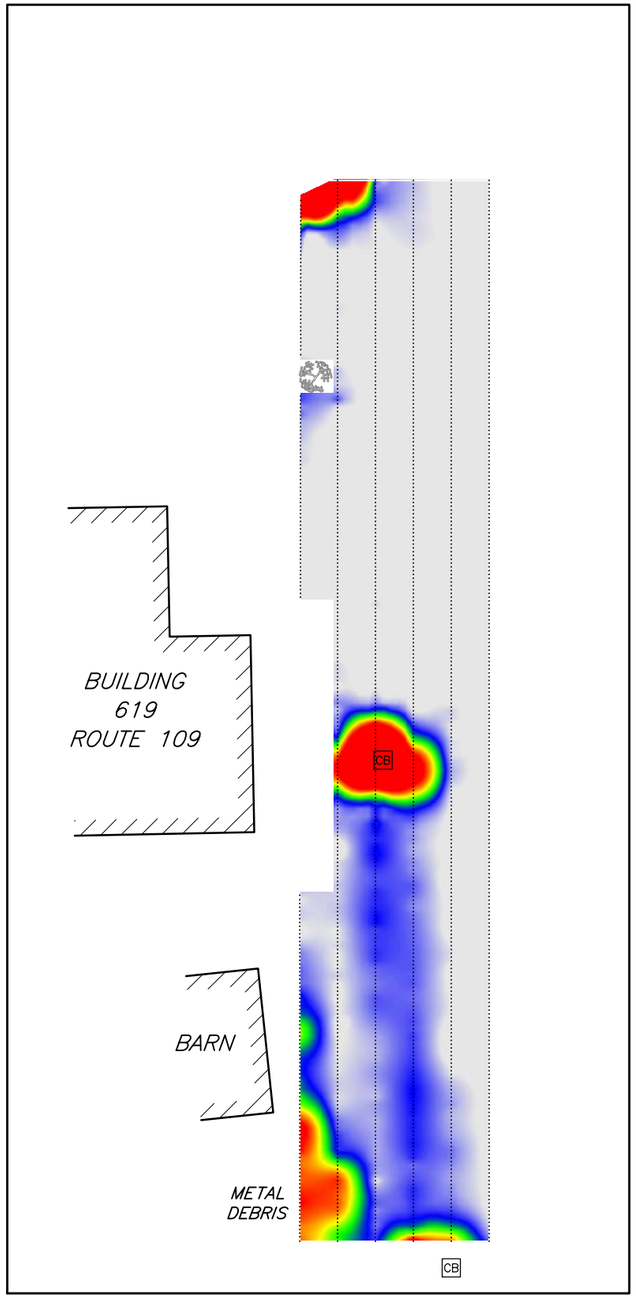
Modified from site plan provided by Environmental Compliance Services, Inc., identified as Record Drawing 8 of 15.pdf.

Figure 2
Site Plan
598 & 619 Route 109
Waterville, Vermont

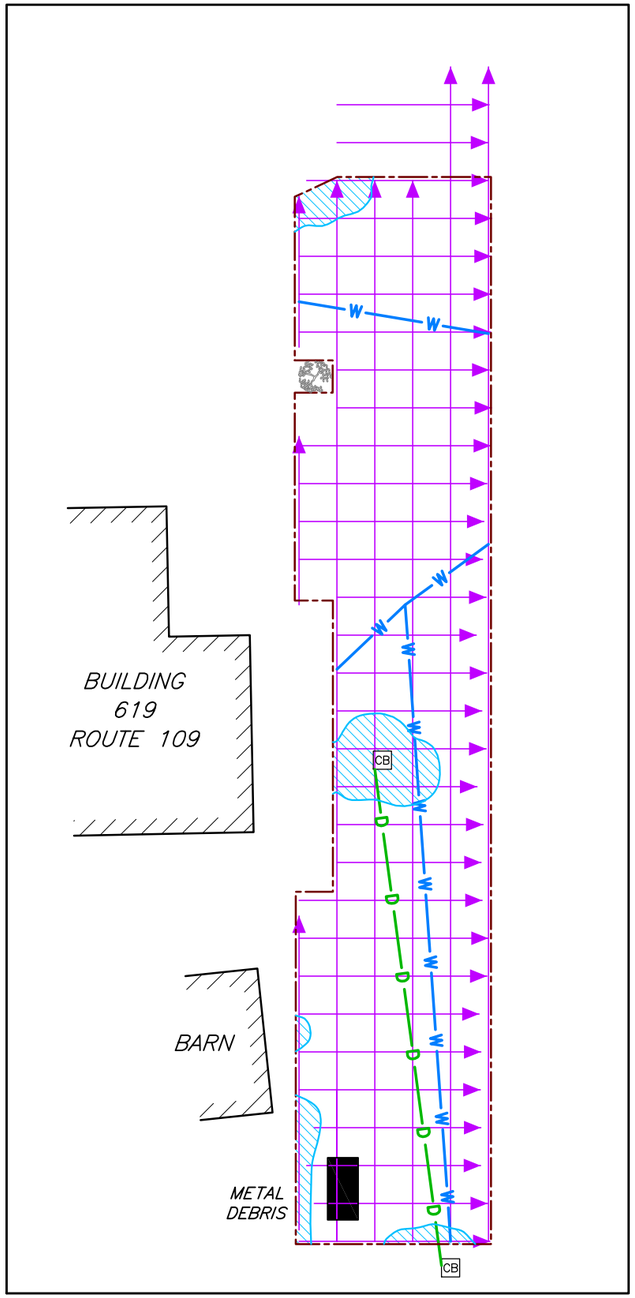
File 13J116 | January, 2014

HAGER–RICHTER GEOSCIENCE, INC.
Salem, New Hampshire

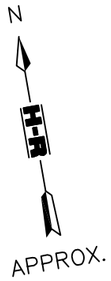




EM SURVEY



GPR SURVEY & INTEGRATED INTERPRETATION



LEGEND

- DATA STATIONS
- GPR TRAVERSE
- APPROXIMATE LIMITS OF EM SURVEY AREA
- POSSIBLE UST
- W — WATER LINE
- D — DRAIN LINE
- EM ANOMALY ATTRIBUTED TO EFFECTS OF SURFACE OBJECTS. THE PRESENCE OR ABSENCE OF BURIED METAL WITHIN THIS AREA CANNOT BE DETERMINED ON THE BASIS OF THE EM61 DATA ALONE.
- CB — CATCH BASIN
- TREE

SCALE (feet)

0 20 40

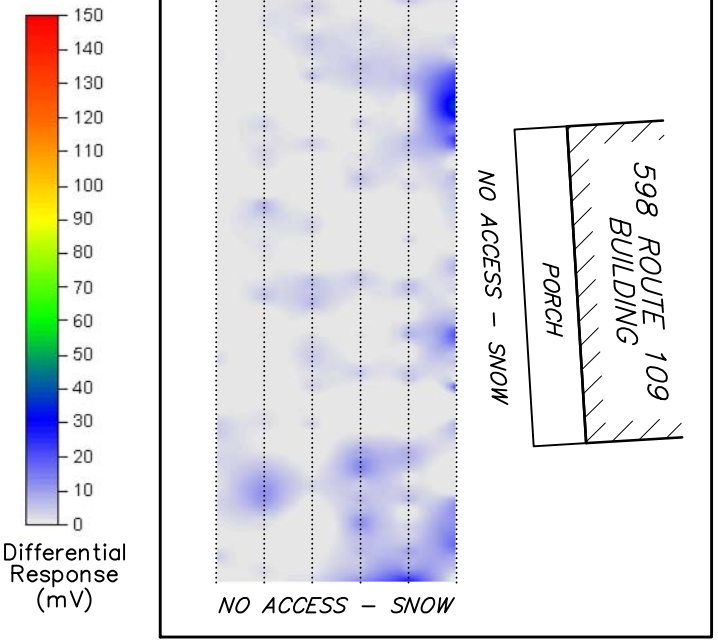
NOTES:

1. Site sketch generated from field notes.
2. Data were acquired with Geonics EM61–MK2. Differential response shown.
3. Differential response equals top coil response – bottom coil response.

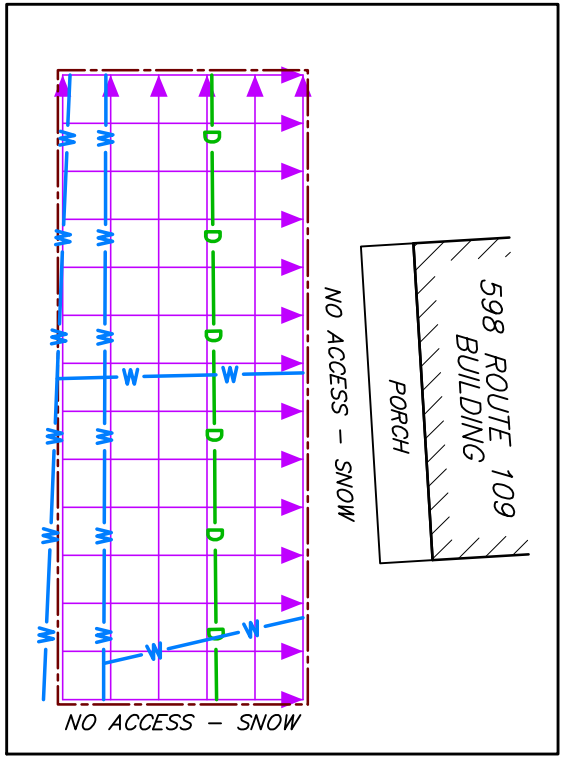
Figure 3
Geophysical Survey & Integrated Interpretation – Area 1
598 & 619 Route 109
Waterville, Vermont

File 13J116 | January, 2014

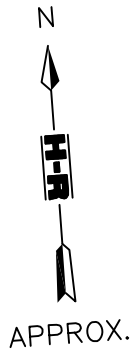
HAGER–RICHTER GEOSCIENCE, INC.
Salem, New Hampshire



EM SURVEY



GPR SURVEY & INTEGRATED INTERPRETATION



LEGEND

- DATA STATIONS
- GPR TRAVERSE
- APPROXIMATE LIMITS OF EM SURVEY AREA
- W — WATER LINE
- D — DRAIN LINE

NOTES:

1. Site sketch generated from field notes.
2. Data were acquired with Geonics EM61–MK2. Differential response shown.
3. Differential response equals top coil response – bottom coil response.

SCALE (feet)

0 20 40

Figure 4
Geophysical Survey & Integrated Interpretation – Area 2
598 & 619 Route 109
Waterville, Vermont

File 13J116 | January, 2014

HAGER–RICHTER GEOSCIENCE, INC.
Salem, New Hampshire

APPENDIX C

SOIL BORING LOGS

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB – 1**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/10/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*		*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Front of 598, Rt. 109. (South end)				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0				0.8		Concrete
1	0-5	5	3.2’ Frost			Native Material
2			Brown silt, F-C sand, some gravel.	58.5		Bentonite
3			Sweet odor, ~3’			Filter Sand
4				1.6		Riser
5			5-7.5’, Olive silt, little F sand.	561		Screen
6			Moist, strong odor.			Water Level
7	5-10	5	Bottom light brown F sand	593		
8			Some black staining.			
9			Sample taken.	561		
10			Moist, light odor.	89.9		
11	10-15	5	Silt and F sand.			
12				4.5		
13						
14				16.1		
15						
16						
17			End of Sampling = feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used:
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 2**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/10/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*		*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Front of 598, Rt. 109. North End.				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0			3.5' Frost.			Concrete
1	0-5	5	F-C sand and gravel.	2.5		Native Material
2			Bottom 1' silt and trace F sand			Bentonite
3			Moist, light odor.	0.4		Filter Sand
4						Riser
5			Top 1' F-C sand and silt and gravel.	0.5		Screen
6			1' dense silt, moist, light odor.			Water Level
7	5-10	5	6" F-C sand, light odor.	0.3		
8			1' dense silt. Light odor. Moist.			
9			Bottom F sand and silt. Strong odor.	538		
10						
11	10-15	4.5	Brown, No odor.	6.5		
12			Silt and F sand			
13			More dense towards bottom.	1.4		
14				1.2		
15						
16						
17			End of Sampling = feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used:
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 3**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/10/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*		*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Between Fox hill road and Day residence.				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0			No frost.			Concrete
1				2.8		Native Material
2			F-C sand at top.			Bentonite
3	0-5	3.5	Bottom silt, little F sand			Filter Sand
4				392		Riser
5				523		Screen
6						Water Level
7	5-10	5	Brown. Strong odor at top.	515		
8			Silt, trace sand. Moist. Sheen on soil moisture.			
9			Strong odor (gasoline).	181		
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used:
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 3**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/10/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*		*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Between Fox hill road and Day residence.				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0			No frost.			Concrete
1				2.8		Native Material
2			F-C sand at top.			Bentonite
3	0-5	3.5	Bottom silt, little F sand			Filter Sand
4				392		Riser
5				523		Screen
6						Water Level
7	5-10	5	Brown. Strong odor at top.	515		
8			Silt, trace sand. Moist. Sheen on soil moisture.			
9			Strong odor (gasoline).	181		
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used:
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 4**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/10/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*		*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Just east of potential UST at 619 (~5' from UST)				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0			1' blacktop. No frost.			Concrete
1			Dry → moist, F-C sand.	1.4		Native Material
2			No odor.			Bentonite
3	0-5	4	Bottom 1' silt and F sand trace	2.6		Filter Sand
4			Organics, No odor			Riser
5						Screen
6			Brown silt and F sand.	0.2		Water Level
7	5-10		Moist			
8			Septic like odor at bottom.			
9				5.5		
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used:
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 5**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/10/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*		*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Between 619 and the potential UST.				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0						Concrete
1						Native Material
2			2 shallow refusals. ~1.5'. Concrete.			Bentonite
3						Filter Sand
4						Riser
5						Screen
6						Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used:
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 6**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/10/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*		*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	North side of 619 residence.				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0			No frost.			Concrete
1			Top 4' F-C sand and gravel	0.1		Native Material
2	0-5	5	Bottom 1' orange silt and F sand			Bentonite
3			Trace organics, dry, no odor			Filter Sand
4				0.4		Riser
5			Silt and F sand, strong gasoline odor (4'-13').	10.3		Screen
6						Water Level
7	5-10	5	Moist. Sample taken.	618		
8			Bottom 0.5' dense silt.			
9				437		
10						
11	10-15	5	Brown moist F – M sand.	410		
12			Trace silt. Strong odor.			
13			Dense silt near bottom.	236		
14				414		
15						
16						
17			End of Sampling = feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used:
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 7**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/10/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*		*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	South end of Waterville Garage, near 3-way water junction.				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)
0				
1			F- C sand, trace gravel.	0.5
2	0-5	4	3-4', silt and F sand.	
3				0.6
4			Olive. Very strong gasoline odor.	0.4
5			Top silt, little F sand.	
6			Bottom, F sand and silt. Moist.	513
7	5-10	5		
8				
9			Top 1', Olive silt, Moist, strong odor.	556
10				539
11				
12				64.9
13	10-15	5	Silt and F sand.	
14				154
15				
16				
17			End of Sampling = feet Well set @ feet	

Well Profile

Legend: Concrete; Native Material; Bentonite; Filter Sand; Riser; Screen; Water Level

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)	
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE
SOME	20-33%	2-4	SOFT	4-10	LOOSE
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE
TRACE	0-10%	8-15	STIFF	30-50	DENSE
		15-30	VERY STIFF	>50	VERY DENSE
		>30	HARD		

Notes:

PID used:

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 8**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/10/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*		*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	North corner of garage.				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0						Concrete
1			F-C sand little silt.	2.0		Native Material
2	0-5	3	Trace gravel.			Bentonite
3			Light brown. Dry → moist.			Filter Sand
4				0.4		Riser
5						Screen
6			Top 2', Olive silt, moist, sheen on soil.	108		Water Level
7	5-10	4	Very strong odor.			
8			Bottom F sand, some silt. Strong odor.			
9				203		
10			Top 2', silty, some F sand. Moist.			
11	10-15	4				
12			Bottom F sand. Little silt at bottom.			
13			Moist, light odor.	89.2		
14						
15						
16						
17			End of Sampling = feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used:
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 9**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/10/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*		*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	North of Waterville Garage, midway up parking area.				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0						Concrete
1			Brown, Moist course sand and gravel	0.1		Native Material
2	0-5	5				Bentonite
3			Bottom 1.5' silt and F sand, moist	0.1		Filter Sand
4				0.1		Riser
5			Top 2.5' light brown F sand, some silt.			Screen
6			Moist, no odor	0.0		Water Level
7						
8	5-10	4.5	Bottom silt, little F sand	0.0		
9			Moist, No odor	0.0		
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used:
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 11**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/17/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*	**10'**	*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Tobin's Driveway				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0			3 ½' frost			Concrete
1			Brown, Moist fine sand and silt	0.0		Native Material
2	0-5	4.5	More silt towards bottom	0.0		Bentonite
3			Trace gravel and roots	0.0		Filter Sand
4						Riser
5	5-10	5'	Top 1 ½' brown fine sand and silt, moist, no odor Re	0.0		Screen
6			Rest fine to coarse sand and gravel pulverized stone and shale 8 ½ - 10' moist, no odor	0.0		Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 10 feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used:
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 12**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/17/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*	**10'**	*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Corner of Fox Hill				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0			Top 2' brown fine sand and silt, trace gravel, moist, no odor	0.0		Concrete
1			6'' shale stone			Native Material
2	0-5	4	Bottom same as top	0.0		Bentonite
3						Filter Sand
4						Riser
5	5-10	4'	Top 1' fine to coarse sand, trace gravel and silt, moist, no odor	0.0		Screen
6			Bottom fine sand, little silt, moist, no odor	0.0		Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 10 feet Well set @ feet			

Proportions Used		Blow Count (cohesive soils)		Blow Count (granular soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Ion Science Tiger
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 13**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/17/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*	**10'**	*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Front of Manchester Apts.				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0			1' Frost	0.0		Concrete
1			Top 4 ½' fine to coarse sand and gravel (shale), moist, no odor	0.0		Native Material
2	0-5	5'	Bottom brown fine sand and silt, moist, no odor	0.0		Bentonite
3						Filter Sand
4						Riser
5	5-10	4 ½'	Top 1 ½' brown fine sand and silt, moist, no odor	0.0		Screen
6			Bottom fine to coarse sand and shale stone, trace silt, moist, no odor	0.0		Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 10 feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Ion Science Tiger
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 14**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/17/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*	**10'**	*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	Front of Magnant House				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0-5	2'	Fine to coarse sand and gravel, trace silt, moist, no odor, brown	0.0		Concrete
1			Last 2' of boring no recovery, dropped down			Native Material
2						Bentonite
3						Filter Sand
4						Riser
5	5-10	2 ½'	Probe pushed down with little to no vibration	0.0		Screen
6			Brown fine to medium sand trace silt, sand becoming more fine toward bottom	0.0		Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 10 feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Ion Science Tiger
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 15**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/17/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*	**10'**	*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:					

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0-5	2 1/2'	1' Frost, boring pushed through easy			Concrete
1			1' Brown fine sand and silt	0.0		Native Material
2			3" looks like black pavement			Bentonite
3			Bottom – fine sand, little silt. Trace gravel, moist, no odor	0.0		Filter Sand
4						Riser
5	5-10	3'	Top 2' fine to coarse sand, trace silt and gravel, moist, no odor	0.0		Screen
6			Bottom – silt and fine sand, moist, no odor	0.0		Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 10 feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Ion Science Tiger
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 16**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/17/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*	**10'**	*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:					

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0-5	2 1/2'	Top 1 ½ feet fine to coarse sand and gravel, trace silt	0.0		Concrete
1			Bottom fine to coarse sand, trace silt, moist, no odor	0.0		Native Material
2						Bentonite
3				0.0		Filter Sand
4						Riser
5	5-10	3 1/2'	Fine sand, some silt, moist, no odor	0.0		Screen
6			Iron staining at ~6' and 8 to 8 ½'	0.0		Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 10 feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Ion Science Tiger
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 17**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/17/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*	**10'**	*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:					

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0-5	0.75'	Boring pushed right through fine to medium sand, some silt – moist, no odor	0.0		Concrete
1				0.0		Native Material
2						Bentonite
3				0.0		Filter Sand
4						Riser
5	5-10	2 ½'	Pushed right through	0.0		Screen
6			Fine to medium sand, some silt, moist, no odor	0.0		Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 10 feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Ion Science Tiger
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 18**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/17/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*	**10'**	*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	North end of Waterville Garage parking (30' south of utility pole)				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile
0	0-5	1 ½'	Pushed right through	0.0	
1			Moist brown fine to medium sand and silt	0.0	
2			No odor, stone at bottom		
3					
4					
5	5-10	2 ½'	Fine to medium sand, trace silt, moist, no odor	0.0	
6			1/2"' silt lens at 9'	0.0	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17			End of Sampling = 10 feet Well set @ feet		

Legend: Concrete; Native Material; Bentonite; Filter Sand; Riser; Screen; Water Level

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Ion Science Tiger
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 19**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/17/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*	**10'**	*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:					

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0-5	1'	Pushed through	0.0		Concrete
1			Fine to medium sand and silt, little gravel	0.0		Native Material
2			Moist, no odor			Bentonite
3						Filter Sand
4						Riser
5	5-10	3.5'	Moist to wet silt, no odor	0.0		Screen
6			Bottom ½' fine sand, little silt, moist, no odor	0.0		Water Level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17			End of Sampling = 10 feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Ion Science Tiger
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 20**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/17/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*	**15'**	*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:					

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0-5	3'	2' 8" Frost	0.1		Concrete
1			Brown, moist, no odor			Native Material
2			Fine sand and silt, trace gravel	0.1		Bentonite
3						Filter Sand
4						Riser
5	5-10	4'	Top 2' fine sand and silt, moist	540		Screen
6			Bottom, moist silt, trace sand, strong gasoline odor	703		Water Level
7				501		
8						
9						
10	10 – 15	5	Top 2' silt, moist, strong gasoline odor	150		
11			Bottom, fine to medium sand, some silt, moist, light odor	306		
12						
13						
14						
15						
16						
17			End of Sampling = 15 feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Ion Science Tiger
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 Elm St, Suite 3 (802) 241-4131
Waterbury, Vermont 05676 (802) 244-6894 - fax

BORING / WELL IDENTIFICATION: **SB - 21**

Site Name:	**Waterville VOC Investigation**
Site Location:	**Rt 109, Waterville, VT**
Installation Date:	**1/17/14**
Job Number:	**08-221182.00**

Well Depth:		*Boring Depth:*	**15'**	*ECS Representative:*	**Jeff Girard**
Depth to Water (during drilling):				*Drilling Company:*	**Accuworx USA**
Screen Diameter:		*Depth:*			
Screen Type/Size:				*Sampling Method:*	**Direct Push**
Riser Diameter:		*Depth:*		*Reference Point (RP):*	**Ground surface**
Riser Type/Size:				*Elevation of RP:*	**Not measured**
Remarks:	In front of 619 Route 109				

Depth (in feet)	Sample Depth	Recovery (ft)	Sample Description and Notes	PID (ppm)	Well Profile	Legend
0	0-5	5'	Top 2' concrete and stone			Concrete
1			1' brown moist, no odor, fine sand, little silt	0.8		Native Material
2			Bottom, silt, some fine sand, moist, no odor	0.6		Bentonite
3						Filter Sand
4						Riser
5	5-10	4'	Moist strong gasoline odor, silt, little fine sand, brown	574		Screen
6			Black staining at 6'	456		Water Level
7				633		
8						
9						
10	10 – 15	5	Brown, moist, strong odor	PID reading Decreased, forgot to write down		
11			Gradual changes from fine sand and silt to silt and fine sand			
12						
13						
14						
15						
16						
17			End of Sampling = 15 feet Well set @ feet			

Proportions Used		Blow Count (Cohesive Soils)		Blow Count (Granular Soils)		Notes:
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	
SOME	20-33%	2-4	SOFT	4-10	LOOSE	PID used: Ion Science Tiger
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

1 ELM ST, SUITE 3 (802) 241-4131
WATERBURY, VERMONT 05676 (802) 244-6894 - FAX

BORING / WELL IDENTIFICATION: **SB - 22**

SITE NAME:	**Waterville VOC Investigation**
SITE LOCATION:	**Rt 109, Waterville, VT**
INSTALLATION DATE:	**1/17/14**
JOB NUMBER:	**08-221182.00**

WELL DEPTH:		*BORING DEPTH:*	**15'**	*ECS REPRESENTATIVE:*	**Jeff Girard**
DEPTH TO WATER (DURING DRILLING):				*DRILLING COMPANY:*	**Accuworx USA**
SCREEN DIAMETER:		*DEPTH:*			
SCREEN TYPE/SIZE:				*SAMPLING METHOD:*	**Direct Push**
RISER DIAMETER:		*DEPTH:*		*REFERENCE POINT (RP):*	**Ground surface**
RISER TYPE/SIZE:				*ELEVATION OF RP:*	**Not measured**
REMARKS:	Just off porch in middle of 598 Route 109				

DEPTH (IN FEET)	SAMPLE DEPTH	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	PID (PPM)	WELL PROFILE
0	0-5	1'	Pushed right through		
1			Brown, moist, no odor		
2			Silt, some fine sand, trace gravel	0.9	
3					
4					
5	5-10	2'	Pushed right through		
6			Top 1' – brown moist, light odor, silt, little fine sand	2.6	
7			Bottom, brown, moist, odor, fine sand and silt	624	
8					
9					
10	10 – 15	4	Brown, moist, no odor	1.7	
11			Gradual change from fine sand and silt to silt and fine sand	1.4	
12					
13					
14					
15					
16					
17			End of Sampling = 15 feet Well set @ feet		

LEGEND: Concrete; Native Material; Bentonite; Filter Sand; Riser; Screen; Water Level

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)	
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE
SOME	20-33%	2-4	SOFT	4-10	LOOSE
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE
TRACE	0-10%	8-15	STIFF	30-50	DENSE
		15-30	VERY STIFF	>50	VERY DENSE
		>30	HARD		

Notes:

PID used: Ion Science Tiger

APPENDIX D

SPECTRUM PROFESSIONAL OPINION

SPECTRUM ANALYTICAL
Featuring
Hanibal Technology

February 20, 2014

Laura Woodard
Hydrogeologist
Environmental Compliance Services, Inc..
1 Elm Street, Suite 3
Waterbury, VT 05676

RE: Professional Opinion

Dear Laura:

As per your request, an evaluation of samples SB-1 (SB83179-01) and SB-6 (SB83179-02) was conducted in order to identify the petroleum hydrocarbon product(s) present in the sample. I have reviewed the chromatograms associated with the two samples (see attached overlays). The samples contain weathered gasoline. The samples do not contain any other petroleum product.

Determining whether the gasoline in the two samples is the same gasoline will require a detailed forensic evaluation that includes testing for PIANO (Paraffins, Isoparaffins, Aromatics, Napthenes, Olefins). The PIANO analysis provides a detailed chemical characterization of the gasoline product. Spectrum would provide a full forensic report describing the methodology, chromatograms, a discussion of the results and opinions.

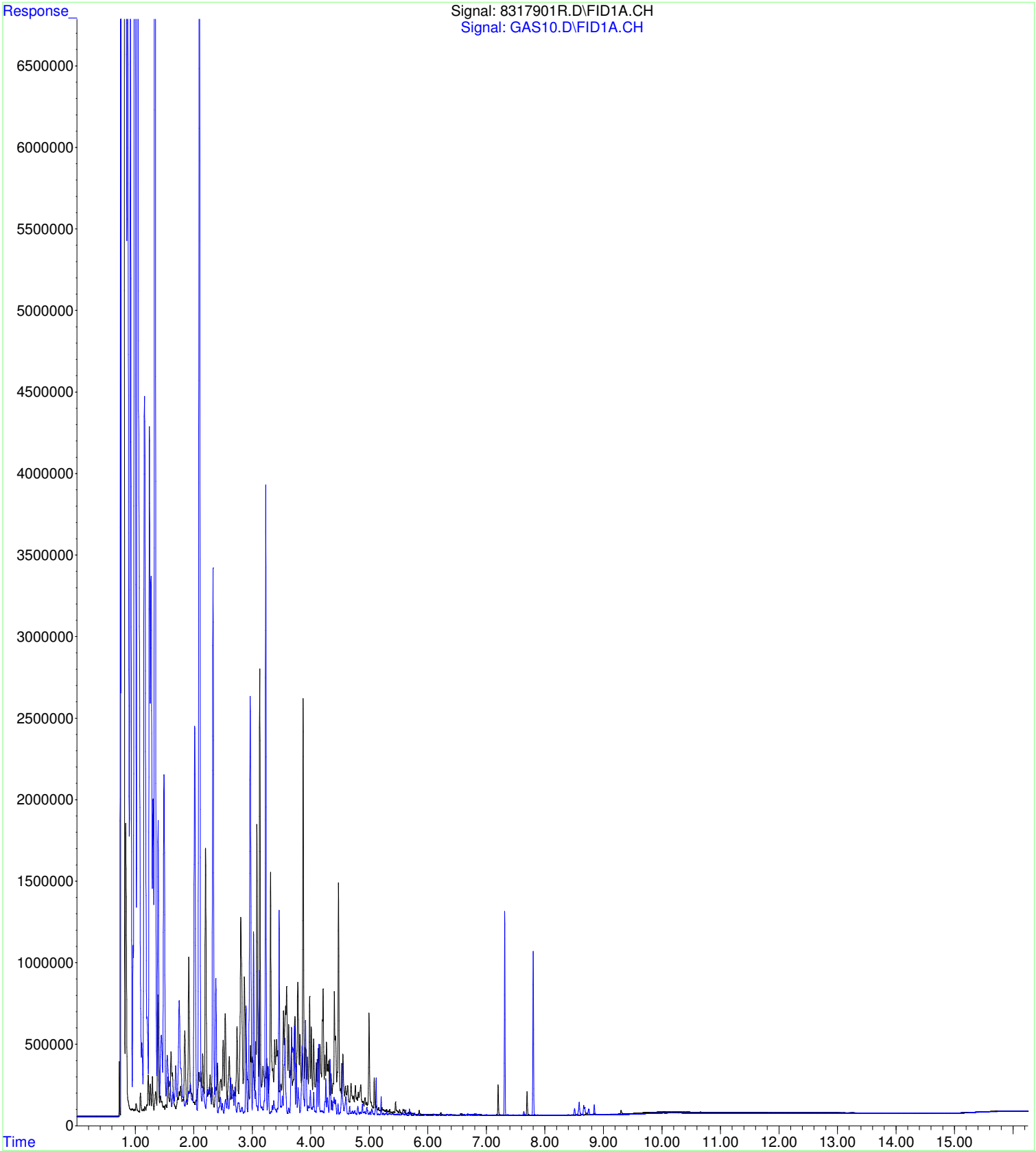
Linking the potential contaminant sources to the receptors may require additional sampling and forensic analysis of contaminated soil (or free product), and groundwater. A review of the available site information will be necessary before additional sampling is recommended.

Should you have any questions, please feel free to contact me at your earliest convenience.

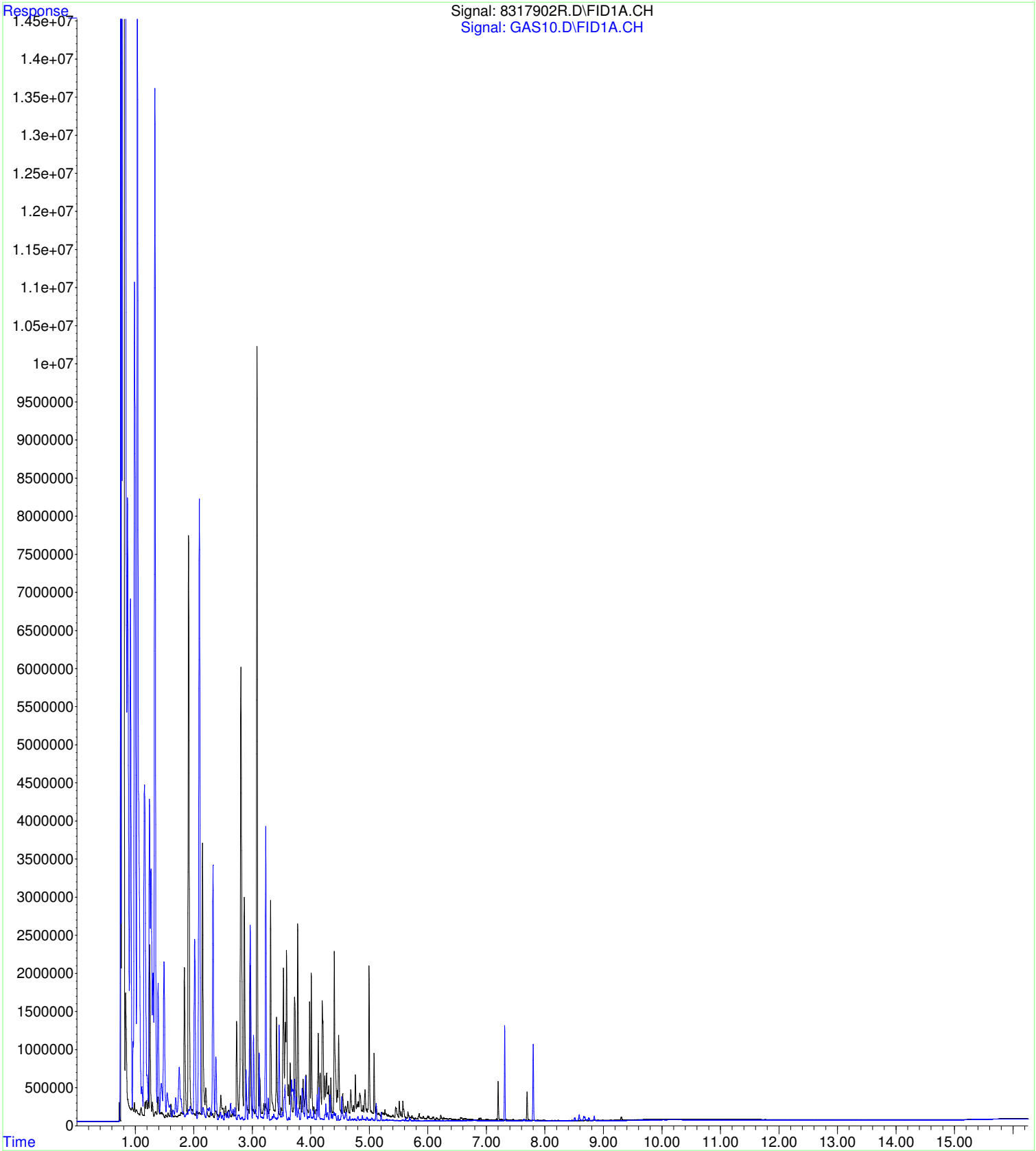
Sincerely,

Amine Dahmani, Ph.D.
R&D Director

File :G:\Jan2014\HPS16\TPH16011614.S\8317901R.D
Operator : SEP
Acquired : 16 Jan 2014 12:20 pm using AcqMethod T6060513.M
Instrument : HP G1530A
Sample Name: SB83179-01 @ SB-1
Misc Info : 8100 RERUN 1:5DIL
ExpBarcode:



File :G:\Jan2014\HPS16\TPH16011614.S\8317902R.D
Operator : SEP
Acquired : 16 Jan 2014 12:44 pm using AcqMethod T6060513.M
Instrument : HP G1530A
Sample Name: SB83179-02 @ SB-6
Misc Info : 8100 RERUN 1:1DIL
ExpBarcode:



APPENDIX E

LABORATORY ANALYTICAL REPORT

Report Date:
27-Jan-14 09:49

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Environmental Compliance Services
1 Elm St. Suite 3
Waterbury, VT 05676
Attn: Laura Woodard

Project: Waterville Fire District - Waterville, VT
Project #: 08-221182.00

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB83179-01	SB-1	Soil	10-Jan-14 09:00	14-Jan-14 10:16
SB83179-02	SB-6	Soil	10-Jan-14 13:00	14-Jan-14 10:16

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 18 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, NJ-MA012, PA-68-04426 and FL-E87936).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

The samples were received 0.7 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

All VOC soils samples submitted and analyzed in methanol will have a minimum dilution factor of 50. This is the minimum amount of solvent allowed on the instrumentation without causing interference. Soils are run on a manual load instrument. 100ug of sample (MEOH) is spiked into 5ml DI water along with the surrogate and added directly onto the instrument. Additional dilution factors may be required to keep analyte concentration within instrument calibration range.

Method SW846 5035A is designed to use on samples containing low levels of VOCs, ranging from 0.5 to 200 ug/Kg. Target analytes that are less responsive to purge and trap may be present at concentrations over 200ug/Kg but may not be reportable in the methanol preserved vial (SW846 5030). This is the result of the inherent dilution factor required for the methanol preservation.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 8100Mod.

Samples:

SB83179-01 *SB-1*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SB83179-02 *SB-6*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SW846 8260C

Calibration:

1312038

Analyte quantified by quadratic equation type calibration.

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
1,3,5-Trichlorobenzene
Hexachlorobutadiene
Naphthalene

This affected the following samples:

S315022-ICV1

S315022-ICV1

Analyte percent recovery is outside individual acceptance criteria (80-120).

4-Methyl-2-pentanone (MIBK) (121%)
Dichlorodifluoromethane (Freon12) (79%)

SW846 8260C

Calibration:

S315022-ICV1

This affected the following samples:

1401262-BLK1
1401262-BS1
1401262-BSD1
S400518-CCV1
SB-1
SB-6

Laboratory Control Samples:

1401262 BS/BSD

Dichlorodifluoromethane (Freon12) percent recoveries (134/125) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

SB-1
SB-6

Vinyl chloride percent recoveries (128/131) are outside individual acceptance criteria (70-130), but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

SB-1
SB-6

Samples:

S400518-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,1,1,2-Tetrachloroethane (22.0%)
1,1,1-Trichloroethane (20.6%)
1,1-Dichloroethene (25.0%)
Bromoform (28.4%)
Carbon tetrachloride (29.9%)
Chloroethane (27.0%)
Dibromochloromethane (24.1%)
Trichlorofluoromethane (Freon 11) (32.6%)
Vinyl chloride (34.9%)

Analyte percent drift is outside individual acceptance criteria (20), but within overall method allowances.

Acetone (32.9%)
Bromomethane (26.8%)
Ethanol (21.7%)
Hexachlorobutadiene (26.3%)

This affected the following samples:

1401262-BLK1
1401262-BS1
1401262-BSD1
SB-1
SB-6

SB83179-01 *SB-1*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

SB83179-02 *SB-6*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Sample Acceptance Check Form

Client:	Environmental Compliance Services - Waterbury, VT
Project:	Waterville Fire District - Waterville, VT / 08-221182.00
Work Order:	SB83179
Sample(s) received on:	1/14/2014
Received by:	Allison Edens

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
1. Were custody seals present?	☐	☑	☐
2. Were custody seals intact?	☐	☐	☑
3. Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
4. Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
5. Were samples refrigerated upon transfer to laboratory representative?	☐	☑	☐
6. Were sample containers received intact?	☑	☐	☐
7. Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
8. Were samples accompanied by a Chain of Custody document?	☑	☐	☐
9. Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
10. Did sample container labels agree with Chain of Custody document?	☑	☐	☐
11. Were samples received within method-specific holding times?	☑	☐	☐

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB-1 SB83179-01	08-221182.00	Soil	10-Jan-14 09:00	14-Jan-14

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			DT	1400959	
Volatile Organic Compounds by SW846 8260			GS1										
Prepared by method SW846 5035A Soil (high level)							Initial weight: 22.66 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1200	D	µg/kg dry	1200	716	1000	SW846 8260C	17-Jan-14	17-Jan-14	GMA	1401262	X
67-64-1	Acetone	< 12000	D	µg/kg dry	12000	11400	1000	"	"	"	"	"	X
107-13-1	Acrylonitrile	< 1200	D	µg/kg dry	1200	1170	1000	"	"	"	"	"	X
71-43-2	Benzene	< 1200	D	µg/kg dry	1200	407	1000	"	"	"	"	"	X
108-86-1	Bromobenzene	< 1200	D	µg/kg dry	1200	334	1000	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 1200	D	µg/kg dry	1200	1040	1000	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 1200	D	µg/kg dry	1200	882	1000	"	"	"	"	"	X
75-25-2	Bromoform	< 1200	D	µg/kg dry	1200	651	1000	"	"	"	"	"	X
74-83-9	Bromomethane	< 2390	D	µg/kg dry	2390	2120	1000	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 12000	D	µg/kg dry	12000	3670	1000	"	"	"	"	"	X
104-51-8	n-Butylbenzene	**4,560**	D	µg/kg dry	1200	832	1000	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	**2,680**	D	µg/kg dry	1200	531	1000	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 1200	D	µg/kg dry	1200	308	1000	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 2390	D	µg/kg dry	2390	1710	1000	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1200	D	µg/kg dry	1200	878	1000	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1200	D	µg/kg dry	1200	649	1000	"	"	"	"	"	X
75-00-3	Chloroethane	< 2390	D	µg/kg dry	2390	785	1000	"	"	"	"	"	X
67-66-3	Chloroform	< 1200	D	µg/kg dry	1200	884	1000	"	"	"	"	"	X
74-87-3	Chloromethane	< 2390	D	µg/kg dry	2390	1220	1000	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 1200	D	µg/kg dry	1200	370	1000	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 1200	D	µg/kg dry	1200	546	1000	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 2390	D	µg/kg dry	2390	2300	1000	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 1200	D	µg/kg dry	1200	874	1000	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 1200	D	µg/kg dry	1200	907	1000	"	"	"	"	"	X
74-95-3	Dibromomethane	< 1200	D	µg/kg dry	1200	811	1000	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1200	D	µg/kg dry	1200	401	1000	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1200	D	µg/kg dry	1200	530	1000	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1200	D	µg/kg dry	1200	454	1000	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2390	D	µg/kg dry	2390	591	1000	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1200	D	µg/kg dry	1200	1170	1000	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1200	D	µg/kg dry	1200	785	1000	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1200	D	µg/kg dry	1200	637	1000	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 1200	D	µg/kg dry	1200	521	1000	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 1200	D	µg/kg dry	1200	1020	1000	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1200	D	µg/kg dry	1200	634	1000	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 1200	D	µg/kg dry	1200	876	1000	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 1200	D	µg/kg dry	1200	485	1000	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 1200	D	µg/kg dry	1200	457	1000	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 1200	D	µg/kg dry	1200	430	1000	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 1200	D	µg/kg dry	1200	721	1000	"	"	"	"	"	X
100-41-4	Ethylbenzene	**14,800**	D	µg/kg dry	1200	729	1000	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB-1 SB83179-01	08-221182.00	Soil	10-Jan-14 09:00	14-Jan-14

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
Prepared by method SW846 5035A Soil (high level)							Initial weight: 22.66 g						
87-68-3	Hexachlorobutadiene	< 1200	D	µg/kg dry	1200	1190	1000	SW846 8260C	17-Jan-14	17-Jan-14	GMA	1401262	X
591-78-6	2-Hexanone (MBK)	< 12000	D	µg/kg dry	12000	2780	1000	"	"	"	"	"	X
98-82-8	Isopropylbenzene	**5,460**	D	µg/kg dry	1200	262	1000	"	"	"	"	"	X
99-87-6	4-Isopropyltoluene	**5,360**	D	µg/kg dry	1200	563	1000	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 1200	D	µg/kg dry	1200	750	1000	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 12000	D	µg/kg dry	12000	4920	1000	"	"	"	"	"	X
75-09-2	Methylene chloride	< 2390	D	µg/kg dry	2390	986	1000	"	"	"	"	"	X
91-20-3	Naphthalene	**13,100**	D	µg/kg dry	1200	534	1000	"	"	"	"	"	X
103-65-1	n-Propylbenzene	**8,530**	D	µg/kg dry	1200	468	1000	"	"	"	"	"	X
100-42-5	Styrene	< 1200	D	µg/kg dry	1200	359	1000	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 1200	D	µg/kg dry	1200	595	1000	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 1200	D	µg/kg dry	1200	1110	1000	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 1200	D	µg/kg dry	1200	749	1000	"	"	"	"	"	X
108-88-3	Toluene	**6,220**	D	µg/kg dry	1200	816	1000	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 1200	D	µg/kg dry	1200	849	1000	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 1200	D	µg/kg dry	1200	925	1000	"	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	< 1200	D	µg/kg dry	1200	849	1000	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1200	D	µg/kg dry	1200	922	1000	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1200	D	µg/kg dry	1200	858	1000	"	"	"	"	"	X
79-01-6	Trichloroethene	< 1200	D	µg/kg dry	1200	743	1000	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 1200	D	µg/kg dry	1200	506	1000	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 1200	D	µg/kg dry	1200	997	1000	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	**68,900**	D	µg/kg dry	1200	409	1000	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	**30,600**	D	µg/kg dry	1200	468	1000	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 1200	D	µg/kg dry	1200	722	1000	"	"	"	"	"	X
179601-23-1	m,p-Xylene	**66,200**	D	µg/kg dry	2390	1610	1000	"	"	"	"	"	X
95-47-6	o-Xylene	**28,600**	D	µg/kg dry	1200	300	1000	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 2390	D	µg/kg dry	2390	1180	1000	"	"	"	"	"	
60-29-7	Ethyl ether	< 1200	D	µg/kg dry	1200	867	1000	"	"	"	"	"	X
994-05-8	Tert-amyl methyl ether	< 1200	D	µg/kg dry	1200	299	1000	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 1200	D	µg/kg dry	1200	479	1000	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 1200	D	µg/kg dry	1200	627	1000	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 12000	D	µg/kg dry	12000	11800	1000	"	"	"	"	"	X
123-91-1	1,4-Dioxane	< 23900	D	µg/kg dry	23900	21300	1000	"	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-buten e	< 5980	D	µg/kg dry	5980	2040	1000	"	"	"	"	"	X
64-17-5	Ethanol	< 479000	D	µg/kg dry	479000	78200	1000	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*115*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*96*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*108*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*109*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB-1 SB83179-01	08-221182.00	Soil	10-Jan-14 09:00	14-Jan-14

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
Fingerprinting by GC			GS1										
Prepared by method SW846 3550C													
8006-61-9	Gasoline	< 175	D	mg/kg dry	175	103	5	SW846 8100Mod.	15-Jan-14	16-Jan-14	SEP	1400988	
68476-30-2	Fuel Oil #2	< 175	D	mg/kg dry	175	102	5	"	"	"	"	"	
68476-31-3	Fuel Oil #4	< 175	D	mg/kg dry	175	17.5	5	"	"	"	"	"	
68553-00-4	Fuel Oil #6	< 175	D	mg/kg dry	175	105	5	"	"	"	"	"	
M09800000	Motor Oil	< 175	D	mg/kg dry	175	95.8	5	"	"	"	"	"	
8032-32-4	Ligroin	**Calculated as**		mg/kg dry	175	43.8	5	"	"	"	"	"	
J00100000	Aviation Fuel	< 175	D	mg/kg dry	175	43.8	5	"	"	"	"	"	
	Hydraulic Oil	< 175	D	mg/kg dry	175	17.5	5	"	"	"	"	"	
	Dielectric Fluid	< 175	D	mg/kg dry	175	43.8	5	"	"	"	"	"	
	Unidentified	**5,970**	D	mg/kg dry	175	43.8	5	"	"	"	"	"	
	Other Oil	< 175	D	mg/kg dry	175	17.5	5	"	"	"	"	"	
	Total Petroleum Hydrocarbons	**5,970**	D	mg/kg dry	175	17.5	5	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*86*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
7439-92-1	Lead	**11.8**		mg/kg dry	1.69	0.623	1	SW846 6010C	21-Jan-14	24-Jan-14	TBC	1401495	X
General Chemistry Parameters													
	% Solids	**75.7**		%			1	SM2540 G Mod.	14-Jan-14	14-Jan-14	DT	1400936	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB-6 SB83179-02	08-221182.00	Soil	10-Jan-14 13:00	14-Jan-14

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
	VOC Extraction	**Field extracted**		N/A			1	VOC Soil Extraction			DT	1400959	
Volatile Organic Compounds by SW846 8260			GS1										
Prepared by method SW846 5035A Soil (high level)							Initial weight: 22.3 g						
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 2280	D	µg/kg dry	2280	1360	2000	SW846 8260C	17-Jan-14	17-Jan-14	GMA	1401262	X
67-64-1	Acetone	< 22800	D	µg/kg dry	22800	21700	2000	"	"	"	"	"	X
107-13-1	Acrylonitrile	< 2280	D	µg/kg dry	2280	2230	2000	"	"	"	"	"	X
71-43-2	Benzene	**4,100**	D	µg/kg dry	2280	775	2000	"	"	"	"	"	X
108-86-1	Bromobenzene	< 2280	D	µg/kg dry	2280	636	2000	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 2280	D	µg/kg dry	2280	1980	2000	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 2280	D	µg/kg dry	2280	1680	2000	"	"	"	"	"	X
75-25-2	Bromoform	< 2280	D	µg/kg dry	2280	1240	2000	"	"	"	"	"	X
74-83-9	Bromomethane	< 4560	D	µg/kg dry	4560	4040	2000	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 22800	D	µg/kg dry	22800	6980	2000	"	"	"	"	"	X
104-51-8	n-Butylbenzene	**7,220**	D	µg/kg dry	2280	1580	2000	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	< 2280	D	µg/kg dry	2280	1010	2000	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 2280	D	µg/kg dry	2280	586	2000	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 4560	D	µg/kg dry	4560	3260	2000	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 2280	D	µg/kg dry	2280	1670	2000	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 2280	D	µg/kg dry	2280	1230	2000	"	"	"	"	"	X
75-00-3	Chloroethane	< 4560	D	µg/kg dry	4560	1490	2000	"	"	"	"	"	X
67-66-3	Chloroform	< 2280	D	µg/kg dry	2280	1680	2000	"	"	"	"	"	X
74-87-3	Chloromethane	< 4560	D	µg/kg dry	4560	2320	2000	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 2280	D	µg/kg dry	2280	704	2000	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 2280	D	µg/kg dry	2280	1040	2000	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 4560	D	µg/kg dry	4560	4390	2000	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 2280	D	µg/kg dry	2280	1660	2000	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 2280	D	µg/kg dry	2280	1730	2000	"	"	"	"	"	X
74-95-3	Dibromomethane	< 2280	D	µg/kg dry	2280	1540	2000	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 2280	D	µg/kg dry	2280	763	2000	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 2280	D	µg/kg dry	2280	1010	2000	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 2280	D	µg/kg dry	2280	864	2000	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 4560	D	µg/kg dry	4560	1130	2000	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 2280	D	µg/kg dry	2280	2230	2000	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 2280	D	µg/kg dry	2280	1490	2000	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 2280	D	µg/kg dry	2280	1210	2000	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 2280	D	µg/kg dry	2280	991	2000	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 2280	D	µg/kg dry	2280	1930	2000	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 2280	D	µg/kg dry	2280	1210	2000	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 2280	D	µg/kg dry	2280	1670	2000	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 2280	D	µg/kg dry	2280	923	2000	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 2280	D	µg/kg dry	2280	870	2000	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 2280	D	µg/kg dry	2280	818	2000	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 2280	D	µg/kg dry	2280	1370	2000	"	"	"	"	"	X
100-41-4	Ethylbenzene	**55,400**	D	µg/kg dry	2280	1390	2000	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB-6 SB83179-02	08-221182.00	Soil	10-Jan-14 13:00	14-Jan-14

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
Prepared by method SW846 5035A Soil (high level)							Initial weight: 22.3 g						
87-68-3	Hexachlorobutadiene	< 2280	D	µg/kg dry	2280	2270	2000	SW846 8260C	17-Jan-14	17-Jan-14	GMA	1401262	X
591-78-6	2-Hexanone (MBK)	< 22800	D	µg/kg dry	22800	5300	2000	"	"	"	"	"	X
98-82-8	Isopropylbenzene	**5,580**	D	µg/kg dry	2280	499	2000	"	"	"	"	"	X
99-87-6	4-Isopropyltoluene	< 2280	D	µg/kg dry	2280	1070	2000	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 2280	D	µg/kg dry	2280	1430	2000	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 22800	D	µg/kg dry	22800	9360	2000	"	"	"	"	"	X
75-09-2	Methylene chloride	< 4560	D	µg/kg dry	4560	1880	2000	"	"	"	"	"	X
91-20-3	Naphthalene	**9,910**	D	µg/kg dry	2280	1020	2000	"	"	"	"	"	X
103-65-1	n-Propylbenzene	**21,300**	D	µg/kg dry	2280	891	2000	"	"	"	"	"	X
100-42-5	Styrene	< 2280	D	µg/kg dry	2280	684	2000	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 2280	D	µg/kg dry	2280	1130	2000	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 2280	D	µg/kg dry	2280	2110	2000	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 2280	D	µg/kg dry	2280	1430	2000	"	"	"	"	"	X
108-88-3	Toluene	**132,000**	D	µg/kg dry	2280	1550	2000	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 2280	D	µg/kg dry	2280	1620	2000	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 2280	D	µg/kg dry	2280	1760	2000	"	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	< 2280	D	µg/kg dry	2280	1620	2000	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 2280	D	µg/kg dry	2280	1750	2000	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 2280	D	µg/kg dry	2280	1630	2000	"	"	"	"	"	X
79-01-6	Trichloroethene	< 2280	D	µg/kg dry	2280	1410	2000	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 2280	D	µg/kg dry	2280	964	2000	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 2280	D	µg/kg dry	2280	1900	2000	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	**136,000**	D	µg/kg dry	2280	779	2000	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	**44,000**	D	µg/kg dry	2280	891	2000	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 2280	D	µg/kg dry	2280	1370	2000	"	"	"	"	"	X
179601-23-1	m,p-Xylene	**222,000**	D	µg/kg dry	4560	3060	2000	"	"	"	"	"	X
95-47-6	o-Xylene	**89,100**	D	µg/kg dry	2280	572	2000	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 4560	D	µg/kg dry	4560	2250	2000	"	"	"	"	"	
60-29-7	Ethyl ether	< 2280	D	µg/kg dry	2280	1650	2000	"	"	"	"	"	X
994-05-8	Tert-amyl methyl ether	< 2280	D	µg/kg dry	2280	570	2000	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 2280	D	µg/kg dry	2280	911	2000	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 2280	D	µg/kg dry	2280	1190	2000	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 22800	D	µg/kg dry	22800	22400	2000	"	"	"	"	"	X
123-91-1	1,4-Dioxane	< 45600	D	µg/kg dry	45600	40500	2000	"	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-buten e	< 11400	D	µg/kg dry	11400	3890	2000	"	"	"	"	"	X
64-17-5	Ethanol	< 911000	D	µg/kg dry	911000	149000	2000	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*107*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*111*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*112*			*70-130 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
SB-6 SB83179-02	08-221182.00	Soil	10-Jan-14 13:00	14-Jan-14

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
Fingerprinting by GC			GS1										
Prepared by method SW846 3550C													
8006-61-9	Gasoline	< 67.4	D	mg/kg dry	67.4	39.6	2	SW846 8100Mod.	15-Jan-14	16-Jan-14	SEP	1400988	
68476-30-2	Fuel Oil #2	< 67.4	D	mg/kg dry	67.4	39.2	2	"	"	"	"	"	
68476-31-3	Fuel Oil #4	< 67.4	D	mg/kg dry	67.4	6.7	2	"	"	"	"	"	
68553-00-4	Fuel Oil #6	< 67.4	D	mg/kg dry	67.4	40.3	2	"	"	"	"	"	
M09800000	Motor Oil	< 67.4	D	mg/kg dry	67.4	36.9	2	"	"	"	"	"	
8032-32-4	Ligroin	**Calculated as**		mg/kg dry	67.4	16.9	2	"	"	"	"	"	
J00100000	Aviation Fuel	< 67.4	D	mg/kg dry	67.4	16.9	2	"	"	"	"	"	
	Hydraulic Oil	< 67.4	D	mg/kg dry	67.4	6.7	2	"	"	"	"	"	
	Dielectric Fluid	< 67.4	D	mg/kg dry	67.4	16.9	2	"	"	"	"	"	
	Unidentified	**3,670**	D	mg/kg dry	67.4	16.9	2	"	"	"	"	"	
	Other Oil	< 67.4	D	mg/kg dry	67.4	6.7	2	"	"	"	"	"	
	Total Petroleum Hydrocarbons	**3,670**	D	mg/kg dry	67.4	6.7	2	"	"	"	"	"	
Surrogate recoveries:													
3386-33-2	*1-Chlorooctadecane*	*90*			*40-140 %*			"	"	"	"	"	
Total Metals by EPA 6000/7000 Series Methods													
7439-92-1	Lead	**6.35**		mg/kg dry	1.91	0.704	1	SW846 6010C	21-Jan-14	24-Jan-14	TBC	1401495	X
General Chemistry Parameters													
	% Solids	**78.2**		%			1	SM2540 G Mod.	14-Jan-14	14-Jan-14	DT	1400936	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1401262 - SW846 5035A Soil (high level)										
Blank (1401262-BLK1)					Prepared & Analyzed: 17-Jan-14					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 50.0	D	µg/kg wet	50.0						
Acetone	< 500	D	µg/kg wet	500						
Acrylonitrile	< 50.0	D	µg/kg wet	50.0						
Benzene	< 50.0	D	µg/kg wet	50.0						
Bromobenzene	< 50.0	D	µg/kg wet	50.0						
Bromochloromethane	< 50.0	D	µg/kg wet	50.0						
Bromodichloromethane	< 50.0	D	µg/kg wet	50.0						
Bromoform	< 50.0	D	µg/kg wet	50.0						
Bromomethane	< 100	D	µg/kg wet	100						
2-Butanone (MEK)	< 500	D	µg/kg wet	500						
n-Butylbenzene	< 50.0	D	µg/kg wet	50.0						
sec-Butylbenzene	< 50.0	D	µg/kg wet	50.0						
tert-Butylbenzene	< 50.0	D	µg/kg wet	50.0						
Carbon disulfide	< 100	D	µg/kg wet	100						
Carbon tetrachloride	< 50.0	D	µg/kg wet	50.0						
Chlorobenzene	< 50.0	D	µg/kg wet	50.0						
Chloroethane	< 100	D	µg/kg wet	100						
Chloroform	< 50.0	D	µg/kg wet	50.0						
Chloromethane	< 100	D	µg/kg wet	100						
2-Chlorotoluene	< 50.0	D	µg/kg wet	50.0						
4-Chlorotoluene	< 50.0	D	µg/kg wet	50.0						
1,2-Dibromo-3-chloropropane	< 100	D	µg/kg wet	100						
Dibromochloromethane	< 50.0	D	µg/kg wet	50.0						
1,2-Dibromoethane (EDB)	< 50.0	D	µg/kg wet	50.0						
Dibromomethane	< 50.0	D	µg/kg wet	50.0						
1,2-Dichlorobenzene	< 50.0	D	µg/kg wet	50.0						
1,3-Dichlorobenzene	< 50.0	D	µg/kg wet	50.0						
1,4-Dichlorobenzene	< 50.0	D	µg/kg wet	50.0						
Dichlorodifluoromethane (Freon12)	< 100	D	µg/kg wet	100						
1,1-Dichloroethane	< 50.0	D	µg/kg wet	50.0						
1,2-Dichloroethane	< 50.0	D	µg/kg wet	50.0						
1,1-Dichloroethene	< 50.0	D	µg/kg wet	50.0						
cis-1,2-Dichloroethene	< 50.0	D	µg/kg wet	50.0						
trans-1,2-Dichloroethene	< 50.0	D	µg/kg wet	50.0						
1,2-Dichloropropane	< 50.0	D	µg/kg wet	50.0						
1,3-Dichloropropane	< 50.0	D	µg/kg wet	50.0						
2,2-Dichloropropane	< 50.0	D	µg/kg wet	50.0						
1,1-Dichloropropene	< 50.0	D	µg/kg wet	50.0						
cis-1,3-Dichloropropene	< 50.0	D	µg/kg wet	50.0						
trans-1,3-Dichloropropene	< 50.0	D	µg/kg wet	50.0						
Ethylbenzene	< 50.0	D	µg/kg wet	50.0						
Hexachlorobutadiene	< 50.0	D	µg/kg wet	50.0						
2-Hexanone (MBK)	< 500	D	µg/kg wet	500						
Isopropylbenzene	< 50.0	D	µg/kg wet	50.0						
4-Isopropyltoluene	< 50.0	D	µg/kg wet	50.0						
Methyl tert-butyl ether	< 50.0	D	µg/kg wet	50.0						
4-Methyl-2-pentanone (MIBK)	< 500	D	µg/kg wet	500						
Methylene chloride	< 100	D	µg/kg wet	100						
Naphthalene	< 50.0	D	µg/kg wet	50.0						
n-Propylbenzene	< 50.0	D	µg/kg wet	50.0						
Styrene	< 50.0	D	µg/kg wet	50.0						
1,1,1,2-Tetrachloroethane	< 50.0	D	µg/kg wet	50.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1401262 - SW846 5035A Soil (high level)										
Blank (1401262-BLK1)					Prepared & Analyzed: 17-Jan-14					
1,1,2,2-Tetrachloroethane	< 50.0	D	µg/kg wet	50.0						
Tetrachloroethene	< 50.0	D	µg/kg wet	50.0						
Toluene	< 50.0	D	µg/kg wet	50.0						
1,2,3-Trichlorobenzene	< 50.0	D	µg/kg wet	50.0						
1,2,4-Trichlorobenzene	< 50.0	D	µg/kg wet	50.0						
1,3,5-Trichlorobenzene	< 50.0	D	µg/kg wet	50.0						
1,1,1-Trichloroethane	< 50.0	D	µg/kg wet	50.0						
1,1,2-Trichloroethane	< 50.0	D	µg/kg wet	50.0						
Trichloroethene	< 50.0	D	µg/kg wet	50.0						
Trichlorofluoromethane (Freon 11)	< 50.0	D	µg/kg wet	50.0						
1,2,3-Trichloropropane	< 50.0	D	µg/kg wet	50.0						
1,2,4-Trimethylbenzene	< 50.0	D	µg/kg wet	50.0						
1,3,5-Trimethylbenzene	< 50.0	D	µg/kg wet	50.0						
Vinyl chloride	< 50.0	D	µg/kg wet	50.0						
m,p-Xylene	< 100	D	µg/kg wet	100						
o-Xylene	< 50.0	D	µg/kg wet	50.0						
Tetrahydrofuran	< 100	D	µg/kg wet	100						
Ethyl ether	< 50.0	D	µg/kg wet	50.0						
Tert-amyl methyl ether	< 50.0	D	µg/kg wet	50.0						
Ethyl tert-butyl ether	< 50.0	D	µg/kg wet	50.0						
Di-isopropyl ether	< 50.0	D	µg/kg wet	50.0						
Tert-Butanol / butyl alcohol	< 500	D	µg/kg wet	500						
1,4-Dioxane	< 1000	D	µg/kg wet	1000						
trans-1,4-Dichloro-2-butene	< 250	D	µg/kg wet	250						
Ethanol	< 20000	D	µg/kg wet	20000						
Surrogate: 4-Bromofluorobenzene	*30.5*		µg/kg wet		*30.0*		*102*	*70-130*		
Surrogate: Toluene-d8	*30.1*		µg/kg wet		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.3*		µg/kg wet		*30.0*		*108*	*70-130*		
Surrogate: Dibromofluoromethane	*32.6*		µg/kg wet		*30.0*		*109*	*70-130*		
LCS (1401262-BS1)					Prepared & Analyzed: 17-Jan-14					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**22.4**	D	µg/kg wet		20.0		112	70-130		
Acetone	**22.3**	D	µg/kg wet		20.0		112	70-130		
Acrylonitrile	**17.6**	D	µg/kg wet		20.0		88	70-130		
Benzene	**17.4**	D	µg/kg wet		20.0		87	70-130		
Bromobenzene	**22.6**	D	µg/kg wet		20.0		113	70-130		
Bromochloromethane	**21.0**	D	µg/kg wet		20.0		105	70-130		
Bromodichloromethane	**20.2**	D	µg/kg wet		20.0		101	70-130		
Bromoform	**22.8**	D	µg/kg wet		20.0		114	70-130		
Bromomethane	**25.7**	D	µg/kg wet		20.0		129	70-130		
2-Butanone (MEK)	**17.6**	D	µg/kg wet		20.0		88	70-130		
n-Butylbenzene	**17.7**	D	µg/kg wet		20.0		89	70-130		
sec-Butylbenzene	**21.4**	D	µg/kg wet		20.0		107	70-130		
tert-Butylbenzene	**22.5**	D	µg/kg wet		20.0		112	70-130		
Carbon disulfide	**19.0**	D	µg/kg wet		20.0		95	70-130		
Carbon tetrachloride	**24.6**	D	µg/kg wet		20.0		123	70-130		
Chlorobenzene	**20.4**	D	µg/kg wet		20.0		102	70-130		
Chloroethane	**24.3**	D	µg/kg wet		20.0		122	70-130		
Chloroform	**19.6**	D	µg/kg wet		20.0		98	70-130		
Chloromethane	**23.4**	D	µg/kg wet		20.0		117	70-130		
2-Chlorotoluene	**19.7**	D	µg/kg wet		20.0		98	70-130		
4-Chlorotoluene	**20.4**	D	µg/kg wet		20.0		102	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1401262 - SW846 5035A Soil (high level)										
LCS (1401262-BS1)						Prepared & Analyzed: 17-Jan-14				
1,2-Dibromo-3-chloropropane	**16.1**	D	µg/kg wet		20.0		81	70-130		
Dibromochloromethane	**21.5**	D	µg/kg wet		20.0		108	70-130		
1,2-Dibromoethane (EDB)	**20.4**	D	µg/kg wet		20.0		102	70-130		
Dibromomethane	**19.8**	D	µg/kg wet		20.0		99	70-130		
1,2-Dichlorobenzene	**19.6**	D	µg/kg wet		20.0		98	70-130		
1,3-Dichlorobenzene	**22.8**	D	µg/kg wet		20.0		114	70-130		
1,4-Dichlorobenzene	**18.9**	D	µg/kg wet		20.0		95	70-130		
Dichlorodifluoromethane (Freon12)	**26.9**	D	µg/kg wet		20.0		134	70-130		
1,1-Dichloroethane	**18.5**	D	µg/kg wet		20.0		92	70-130		
1,2-Dichloroethane	**19.4**	D	µg/kg wet		20.0		97	70-130		
1,1-Dichloroethene	**24.7**	D	µg/kg wet		20.0		123	70-130		
cis-1,2-Dichloroethene	**19.2**	D	µg/kg wet		20.0		96	70-130		
trans-1,2-Dichloroethene	**20.2**	D	µg/kg wet		20.0		101	70-130		
1,2-Dichloropropane	**17.9**	D	µg/kg wet		20.0		90	70-130		
1,3-Dichloropropane	**16.8**	D	µg/kg wet		20.0		84	70-130		
2,2-Dichloropropane	**23.0**	D	µg/kg wet		20.0		115	70-130		
1,1-Dichloropropene	**19.9**	D	µg/kg wet		20.0		100	70-130		
cis-1,3-Dichloropropene	**19.8**	D	µg/kg wet		20.0		99	70-130		
trans-1,3-Dichloropropene	**21.1**	D	µg/kg wet		20.0		106	70-130		
Ethylbenzene	**19.9**	D	µg/kg wet		20.0		100	70-130		
Hexachlorobutadiene	**25.6**	D	µg/kg wet		20.0		128	70-130		
2-Hexanone (MBK)	**16.8**	D	µg/kg wet		20.0		84	70-130		
Isopropylbenzene	**21.1**	D	µg/kg wet		20.0		105	70-130		
4-Isopropyltoluene	**19.6**	D	µg/kg wet		20.0		98	70-130		
Methyl tert-butyl ether	**19.5**	D	µg/kg wet		20.0		97	70-130		
4-Methyl-2-pentanone (MIBK)	**19.8**	D	µg/kg wet		20.0		99	70-130		
Methylene chloride	**16.7**	D	µg/kg wet		20.0		83	70-130		
Naphthalene	**14.2**	D	µg/kg wet		20.0		71	70-130		
n-Propylbenzene	**20.6**	D	µg/kg wet		20.0		103	70-130		
Styrene	**19.9**	D	µg/kg wet		20.0		100	70-130		
1,1,1,2-Tetrachloroethane	**22.9**	D	µg/kg wet		20.0		115	70-130		
1,1,2,2-Tetrachloroethane	**17.3**	D	µg/kg wet		20.0		86	70-130		
Tetrachloroethene	**22.5**	D	µg/kg wet		20.0		113	70-130		
Toluene	**18.2**	D	µg/kg wet		20.0		91	70-130		
1,2,3-Trichlorobenzene	**17.6**	D	µg/kg wet		20.0		88	70-130		
1,2,4-Trichlorobenzene	**21.3**	D	µg/kg wet		20.0		107	70-130		
1,3,5-Trichlorobenzene	**22.4**	D	µg/kg wet		20.0		112	70-130		
1,1,1-Trichloroethane	**23.1**	D	µg/kg wet		20.0		115	70-130		
1,1,2-Trichloroethane	**19.1**	D	µg/kg wet		20.0		96	70-130		
Trichloroethene	**19.4**	D	µg/kg wet		20.0		97	70-130		
Trichlorofluoromethane (Freon 11)	**25.7**	D	µg/kg wet		20.0		129	70-130		
1,2,3-Trichloropropane	**17.5**	D	µg/kg wet		20.0		88	70-130		
1,2,4-Trimethylbenzene	**21.9**	D	µg/kg wet		20.0		110	70-130		
1,3,5-Trimethylbenzene	**22.2**	D	µg/kg wet		20.0		111	70-130		
Vinyl chloride	**25.6**	D	µg/kg wet		20.0		128	70-130		
m,p-Xylene	**40.5**	D	µg/kg wet		40.0		101	70-130		
o-Xylene	**19.6**	D	µg/kg wet		20.0		98	70-130		
Tetrahydrofuran	**17.0**	D	µg/kg wet		20.0		85	70-130		
Ethyl ether	**22.7**	D	µg/kg wet		20.0		114	70-130		
Tert-amyl methyl ether	**18.6**	D	µg/kg wet		20.0		93	70-130		
Ethyl tert-butyl ether	**18.8**	D	µg/kg wet		20.0		94	70-130		
Di-isopropyl ether	**17.9**	D	µg/kg wet		20.0		90	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1401262 - SW846 5035A Soil (high level)										
LCS (1401262-BS1)					Prepared & Analyzed: 17-Jan-14					
Tert-Butanol / butyl alcohol	**210**	D	µg/kg wet		200		105	70-130		
1,4-Dioxane	**186**	D	µg/kg wet		200		93	70-130		
trans-1,4-Dichloro-2-butene	**17.1**	D	µg/kg wet		20.0		85	70-130		
Ethanol	**461**	D	µg/kg wet		400		115	70-130		
Surrogate: 4-Bromofluorobenzene	*31.4*		µg/kg wet		*30.0*		*105*	*70-130*		
Surrogate: Toluene-d8	*29.4*		µg/kg wet		*30.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.3*		µg/kg wet		*30.0*		*108*	*70-130*		
Surrogate: Dibromofluoromethane	*33.6*		µg/kg wet		*30.0*		*112*	*70-130*		
LCS Dup (1401262-BSD1)					Prepared & Analyzed: 17-Jan-14					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**21.5**	D	µg/kg wet		20.0		108	70-130	4	30
Acetone	**23.3**	D	µg/kg wet		20.0		116	70-130	4	30
Acrylonitrile	**19.3**	D	µg/kg wet		20.0		96	70-130	9	30
Benzene	**17.6**	D	µg/kg wet		20.0		88	70-130	1	30
Bromobenzene	**22.9**	D	µg/kg wet		20.0		114	70-130	1	30
Bromochloromethane	**21.4**	D	µg/kg wet		20.0		107	70-130	2	30
Bromodichloromethane	**20.9**	D	µg/kg wet		20.0		104	70-130	3	30
Bromoform	**23.6**	D	µg/kg wet		20.0		118	70-130	4	30
Bromomethane	**25.4**	D	µg/kg wet		20.0		127	70-130	1	30
2-Butanone (MEK)	**19.9**	D	µg/kg wet		20.0		99	70-130	12	30
n-Butylbenzene	**16.9**	D	µg/kg wet		20.0		84	70-130	5	30
sec-Butylbenzene	**21.5**	D	µg/kg wet		20.0		107	70-130	0.1	30
tert-Butylbenzene	**22.9**	D	µg/kg wet		20.0		115	70-130	2	30
Carbon disulfide	**19.0**	D	µg/kg wet		20.0		95	70-130	0.2	30
Carbon tetrachloride	**24.1**	D	µg/kg wet		20.0		120	70-130	2	30
Chlorobenzene	**19.9**	D	µg/kg wet		20.0		100	70-130	2	30
Chloroethane	**23.4**	D	µg/kg wet		20.0		117	70-130	4	30
Chloroform	**19.7**	D	µg/kg wet		20.0		99	70-130	0.7	30
Chloromethane	**24.2**	D	µg/kg wet		20.0		121	70-130	3	30
2-Chlorotoluene	**20.2**	D	µg/kg wet		20.0		101	70-130	3	30
4-Chlorotoluene	**20.4**	D	µg/kg wet		20.0		102	70-130	0.3	30
1,2-Dibromo-3-chloropropane	**18.0**	D	µg/kg wet		20.0		90	70-130	11	30
Dibromochloromethane	**21.4**	D	µg/kg wet		20.0		107	70-130	0.6	30
1,2-Dibromoethane (EDB)	**21.3**	D	µg/kg wet		20.0		106	70-130	4	30
Dibromomethane	**20.7**	D	µg/kg wet		20.0		104	70-130	5	30
1,2-Dichlorobenzene	**19.7**	D	µg/kg wet		20.0		98	70-130	0.6	30
1,3-Dichlorobenzene	**23.8**	D	µg/kg wet		20.0		119	70-130	4	30
1,4-Dichlorobenzene	**19.6**	D	µg/kg wet		20.0		98	70-130	4	30
Dichlorodifluoromethane (Freon12)	**25.0**	D	µg/kg wet		20.0		125	70-130	7	30
1,1-Dichloroethane	**19.0**	D	µg/kg wet		20.0		95	70-130	3	30
1,2-Dichloroethane	**19.0**	D	µg/kg wet		20.0		95	70-130	2	30
1,1-Dichloroethene	**24.4**	D	µg/kg wet		20.0		122	70-130	1	30
cis-1,2-Dichloroethene	**19.4**	D	µg/kg wet		20.0		97	70-130	1	30
trans-1,2-Dichloroethene	**18.7**	D	µg/kg wet		20.0		93	70-130	8	30
1,2-Dichloropropane	**17.5**	D	µg/kg wet		20.0		87	70-130	2	30
1,3-Dichloropropane	**18.0**	D	µg/kg wet		20.0		90	70-130	6	30
2,2-Dichloropropane	**22.5**	D	µg/kg wet		20.0		112	70-130	2	30
1,1-Dichloropropene	**20.1**	D	µg/kg wet		20.0		101	70-130	0.9	30
cis-1,3-Dichloropropene	**20.3**	D	µg/kg wet		20.0		102	70-130	3	30
trans-1,3-Dichloropropene	**21.2**	D	µg/kg wet		20.0		106	70-130	0.7	30
Ethylbenzene	**19.7**	D	µg/kg wet		20.0		99	70-130	1	30
Hexachlorobutadiene	**23.8**	D	µg/kg wet		20.0		119	70-130	8	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1401262 - SW846 5035A Soil (high level)										
LCS Dup (1401262-BSD1)					Prepared & Analyzed: 17-Jan-14					
2-Hexanone (MBK)	**18.2**	D	µg/kg wet		20.0		91	70-130	8	30
Isopropylbenzene	**21.4**	D	µg/kg wet		20.0		107	70-130	2	30
4-Isopropyltoluene	**19.4**	D	µg/kg wet		20.0		97	70-130	1	30
Methyl tert-butyl ether	**19.3**	D	µg/kg wet		20.0		97	70-130	0.7	30
4-Methyl-2-pentanone (MIBK)	**20.7**	D	µg/kg wet		20.0		104	70-130	4	30
Methylene chloride	**17.5**	D	µg/kg wet		20.0		87	70-130	5	30
Naphthalene	**14.2**	D	µg/kg wet		20.0		71	70-130	0.6	30
n-Propylbenzene	**20.6**	D	µg/kg wet		20.0		103	70-130	0.1	30
Styrene	**21.0**	D	µg/kg wet		20.0		105	70-130	5	30
1,1,1,2-Tetrachloroethane	**23.8**	D	µg/kg wet		20.0		119	70-130	4	30
1,1,2,2-Tetrachloroethane	**17.8**	D	µg/kg wet		20.0		89	70-130	3	30
Tetrachloroethene	**21.7**	D	µg/kg wet		20.0		108	70-130	4	30
Toluene	**18.5**	D	µg/kg wet		20.0		93	70-130	2	30
1,2,3-Trichlorobenzene	**16.8**	D	µg/kg wet		20.0		84	70-130	5	30
1,2,4-Trichlorobenzene	**19.1**	D	µg/kg wet		20.0		96	70-130	11	30
1,3,5-Trichlorobenzene	**21.0**	D	µg/kg wet		20.0		105	70-130	6	30
1,1,1-Trichloroethane	**21.6**	D	µg/kg wet		20.0		108	70-130	6	30
1,1,2-Trichloroethane	**18.9**	D	µg/kg wet		20.0		94	70-130	1	30
Trichloroethene	**20.2**	D	µg/kg wet		20.0		101	70-130	4	30
Trichlorofluoromethane (Freon 11)	**25.4**	D	µg/kg wet		20.0		127	70-130	1	30
1,2,3-Trichloropropane	**18.8**	D	µg/kg wet		20.0		94	70-130	7	30
1,2,4-Trimethylbenzene	**22.5**	D	µg/kg wet		20.0		112	70-130	3	30
1,3,5-Trimethylbenzene	**22.1**	D	µg/kg wet		20.0		110	70-130	0.4	30
Vinyl chloride	**26.2**	QM9, D	µg/kg wet		20.0		131	70-130	3	30
m,p-Xylene	**41.2**	D	µg/kg wet		40.0		103	70-130	2	30
o-Xylene	**20.0**	D	µg/kg wet		20.0		100	70-130	2	30
Tetrahydrofuran	**17.4**	D	µg/kg wet		20.0		87	70-130	2	30
Ethyl ether	**24.2**	D	µg/kg wet		20.0		121	70-130	6	30
Tert-amyl methyl ether	**18.9**	D	µg/kg wet		20.0		94	70-130	2	30
Ethyl tert-butyl ether	**19.3**	D	µg/kg wet		20.0		97	70-130	3	30
Di-isopropyl ether	**18.5**	D	µg/kg wet		20.0		93	70-130	3	30
Tert-Butanol / butyl alcohol	**227**	D	µg/kg wet		200		113	70-130	8	30
1,4-Dioxane	**214**	D	µg/kg wet		200		107	70-130	14	30
trans-1,4-Dichloro-2-butene	**18.4**	D	µg/kg wet		20.0		92	70-130	7	30
Ethanol	**420**	D	µg/kg wet		400		105	70-130	9	30
Surrogate: 4-Bromofluorobenzene	*32.0*		µg/kg wet		*30.0*		*107*	*70-130*		
Surrogate: Toluene-d8	*30.1*		µg/kg wet		*30.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*32.8*		µg/kg wet		*30.0*		*109*	*70-130*		
Surrogate: Dibromofluoromethane	*32.9*		µg/kg wet		*30.0*		*110*	*70-130*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1400988 - SW846 3550C										
Blank (1400988-BLK1)					Prepared & Analyzed: 15-Jan-14					
Gasoline	< 26.4		mg/kg wet	26.4						
Fuel Oil #2	< 26.4		mg/kg wet	26.4						
Fuel Oil #4	< 26.4		mg/kg wet	26.4						
Fuel Oil #6	< 26.4		mg/kg wet	26.4						
Motor Oil	< 26.4		mg/kg wet	26.4						
Ligroin	< 26.4		mg/kg wet	26.4						
Aviation Fuel	< 26.4		mg/kg wet	26.4						
Hydraulic Oil	< 26.4		mg/kg wet	26.4						
Dielectric Fluid	< 26.4		mg/kg wet	26.4						
Unidentified	< 26.4		mg/kg wet	26.4						
Other Oil	< 26.4		mg/kg wet	26.4						
Total Petroleum Hydrocarbons	< 26.4		mg/kg wet	26.4						
Surrogate: 1-Chlorooctadecane	*2.27*		mg/kg wet		*3.30*		*69*	*40-140*		
LCS (1400988-BS2)					Prepared & Analyzed: 15-Jan-14					
Fuel Oil #2	**592**		mg/kg wet	26.3	660		90	40-140		
Surrogate: 1-Chlorooctadecane	*3.17*		mg/kg wet		*3.30*		*96*	*40-140*		
LCS Dup (1400988-BSD2)					Prepared & Analyzed: 15-Jan-14					
Fuel Oil #2	**641**		mg/kg wet	26.3	660		97	40-140	8	200
Surrogate: 1-Chlorooctadecane	*3.60*		mg/kg wet		*3.30*		*109*	*40-140*		

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1401495 - SW846 3050B										
Blank (1401495-BLK1)						Prepared: 21-Jan-14 Analyzed: 24-Jan-14				
Lead	< 1.50		mg/kg wet	1.50						
Duplicate (1401495-DUP1)			**Source: SB83179-02**			Prepared: 21-Jan-14 Analyzed: 24-Jan-14				
Lead	**6.25**		mg/kg dry	1.61		6.35			2	20
Matrix Spike (1401495-MS1)			**Source: SB83179-02**			Prepared: 21-Jan-14 Analyzed: 24-Jan-14				
Lead	**125**		mg/kg dry	1.82	151	6.35	78	75-125		
Matrix Spike Dup (1401495-MSD1)			**Source: SB83179-02**			Prepared: 21-Jan-14 Analyzed: 24-Jan-14				
Lead	**131**		mg/kg dry	1.91	159	6.35	78	75-125	5	20
Post Spike (1401495-PS1)			**Source: SB83179-02**			Prepared: 21-Jan-14 Analyzed: 24-Jan-14				
Lead	**143**		mg/kg dry	1.91	159	6.35	86	80-120		
Reference (1401495-SRM1)						Prepared: 21-Jan-14 Analyzed: 24-Jan-14				
Lead	**121**		mg/kg wet	1.50	128		95	81.49-118.5		
Reference (1401495-SRM2)						Prepared: 21-Jan-14 Analyzed: 24-Jan-14				
Lead	**124**		mg/kg wet	1.50	128		97	81.49-118.5		

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

Gasoline - includes regular, unleaded, premium, etc.
Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel
Fuel Oil #4 - includes #4 fuel oil
Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil
Motor Oil - includes virgin and waste automobile oil
Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha
Aviation Fuel - includes kerosene, Jet A and JP-4
Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as Calculated as.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
June O'Connor
Nicole Leja

SB 83 179

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☒ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: ECS
1 Elm St
Waterbury, VT 05676

Project Mgr.: Laura Woodard

Invoice To: _____

P.O. No.: _____ RQN: 6945

Project No.: 08-221182.00
Site Name: Waterville Fire District
Location: Waterville State: VT
Sampler(s): J. Girard

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8= $NaHSO_4$ 9=_____ 10=_____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1=_____ X2=_____ X3=_____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: 8260	TPH 8100	total lead					
83179-01	SB-1	1/10/14	9:00	G	SO	7/-	1	1			✓	✓	✓					
↓ -02	SB-6	↓	13:00	G	SO	7/-	1	1			✓	✓	✓					

QA Reporting Notes:
(check if needed)
- ☐ Provide MA DEP MCP CAM Report
- ☐ Provide CT DPH RCP Report

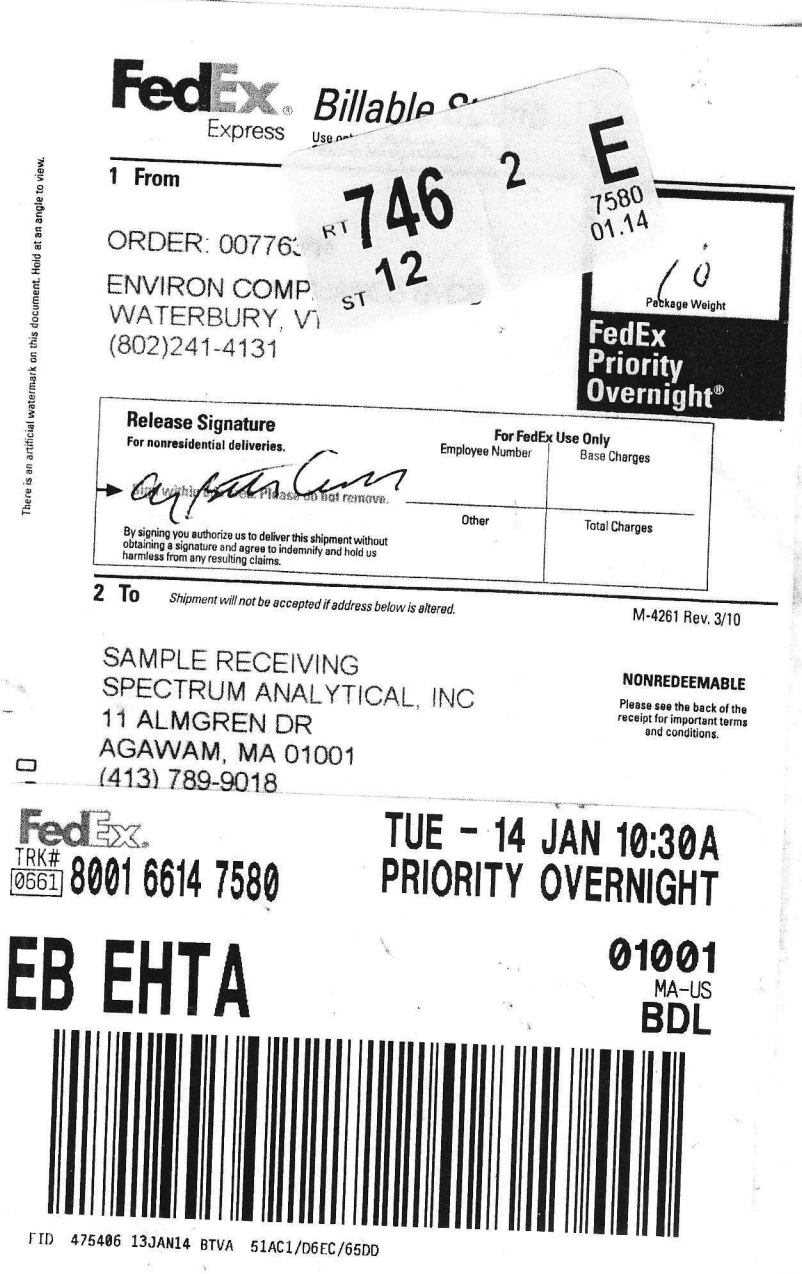
QA/QC Reporting Level
☐ Standard ☐ No QC
☐ Other _____

State specific reporting standards: _____

107-1/0.7 IR 07
AME 01-14-14

☐ Fax results when available to (_____) _____
☒ E-mail to Lwoodard@ecsconsult.com
EDD Format _____
Condition upon receipt: ☒ Iced ☐ Ambient ☐ °C _____

Relinquished by:	Received by:	Date:	Time:
	Cynthia Connell	1/10/14	16:45
Cynthia Connell	Fed x	1/13/14	17:00
FED EX	AME	01-14-14	10:16



FedEx Express Billable S...

RT 746 2 E
ST 12 7580 01.14

1 From

ORDER: 00776...

ENVIRON COMP...
WATERBURY, VT
(802)241-4131

Package Weight
10

FedEx Priority Overnight®

There is an artificial watermark on this document. Hold at an angle to view.

Release Signature
For nonresidential deliveries.
Only written signature. Please do not remove.

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

For FedEx Use Only
Employee Number | Base Charges
Other | Total Charges

2 To Shipment will not be accepted if address below is altered.

M-4261 Rev. 3/10

SAMPLE RECEIVING
SPECTRUM ANALYTICAL, INC
11 ALMGREN DR
AGAWAM, MA 01001
(413) 789-9018

NONREDEEMABLE
Please see the back of the receipt for important terms and conditions.

FedEx
TRK# 0661 8001 6614 7580

TUE - 14 JAN 10:30A
PRIORITY OVERNIGHT

EB EHTA

01001
MA-US
BDL

FID 475406 13JAN14 BTVA 51AC1/D6EC/65DD

Report Date:
04-Feb-14 12:44

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Environmental Compliance Services
1 Elm St. Suite 3
Waterbury, VT 05676
Attn: Laura Woodard

Project: Waterville Fire District - Waterville, VT
Project #: 08-221182.00

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB83833-01	570 RT 109	Drinking Water	23-Jan-14 09:00	24-Jan-14 10:30
SB83833-02	600 RT 109	Drinking Water	23-Jan-14 09:40	24-Jan-14 10:30
SB83833-03	598 RT 109	Drinking Water	23-Jan-14 09:28	24-Jan-14 10:30
SB83833-04	619 RT 109	Drinking Water	23-Jan-14 13:13	24-Jan-14 10:30
SB83833-05	634 RT 109	Drinking Water	23-Jan-14 12:42	24-Jan-14 10:30
SB83833-06	738 RT 109	Drinking Water	23-Jan-14 12:14	24-Jan-14 10:30
SB83833-07	793 RT 109	Drinking Water	23-Jan-14 11:45	24-Jan-14 10:30
SB83833-08	Trip Blank	Aqueous	23-Jan-14 00:00	24-Jan-14 10:30

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 27 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, NJ-MA012, PA-68-04426 and FL-E87936).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

The samples were received 1.5 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

EPA 524.2

Calibration:

1401032

Analyte quantified by quadratic equation type calibration.

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dibromo-3-chloropropane
1,3,5-Trimethylbenzene
4-Isopropyltoluene
Bromoform
cis-1,3-Dichloropropene
Dibromochloromethane
Naphthalene
n-Butylbenzene
n-Propylbenzene
sec-Butylbenzene
Styrene
tert-Butylbenzene
trans-1,3-Dichloropropene
Vinyl chloride

This affected the following samples:

S400848-ICV1

Laboratory Control Samples:

1402182 BS

Bromomethane percent recovery 74 (80-120) is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

570 RT 109
598 RT 109
600 RT 109
619 RT 109
634 RT 109
738 RT 109

EPA 524.2

Laboratory Control Samples:

1402182 BS

Chloromethane percent recovery 75 (80-120) is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

570 RT 109
598 RT 109
600 RT 109
619 RT 109
634 RT 109
738 RT 109

1402183 BS

Bromomethane percent recovery 72 (80-120) is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

793 RT 109
Trip Blank

Sample Acceptance Check Form

Client:	Environmental Compliance Services - Waterbury, VT
Project:	Waterville Fire District - Waterville, VT / 08-221182.00
Work Order:	SB83833
Sample(s) received on:	1/24/2014
Received by:	Allison Edens

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
1. Were custody seals present?	☐	☑	☐
2. Were custody seals intact?	☐	☐	☑
3. Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
4. Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
5. Were samples refrigerated upon transfer to laboratory representative?	☐	☑	☐
6. Were sample containers received intact?	☑	☐	☐
7. Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
8. Were samples accompanied by a Chain of Custody document?	☑	☐	☐
9. Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☐	☑	☐
10. Did sample container labels agree with Chain of Custody document?	☐	☑	☐
11. Were samples received within method-specific holding times?	☑	☐	☐

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
570 RT 109	08-221182.00	Drinking Water	23-Jan-14 09:00	24-Jan-14
SB83833-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Purgeable Organic Compounds													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 0.50		µg/l	0.50	0.47	1	EPA 524.2	29-Jan-14	29-Jan-14	GMA	1402182	
67-64-1	Acetone	< 10.0		µg/l	10.0	2.56	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
71-43-2	Benzene	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
108-86-1	Bromobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
75-25-2	Bromoform	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	0.86	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 0.50		µg/l	0.50	0.34	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
67-66-3	Chloroform	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 0.50		µg/l	0.50	0.26	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	X
74-95-3	Dibromomethane	< 0.50		µg/l	0.50	0.39	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 0.50		µg/l	0.50	0.32	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 0.50		µg/l	0.50	0.41	1	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.40	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
570 RT 109	08-221182.00	Drinking Water	23-Jan-14 09:00	24-Jan-14
SB83833-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Purgeable Organic Compounds													
98-82-8	Isopropylbenzene	< 0.50		µg/l	0.50	0.28	1	EPA 524.2	29-Jan-14	29-Jan-14	GMA	1402182	X
99-87-6	4-Isopropyltoluene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.56	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	X
91-20-3	Naphthalene	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	X
103-65-1	n-Propylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
100-42-5	Styrene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
108-88-3	Toluene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 0.50		µg/l	0.50	0.37	1	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 0.50		µg/l	0.50	0.21	1	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	< 0.50		µg/l	0.50	0.23	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.05	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	4.27	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*91*			*80-120 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*80-120 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*109*			*80-120 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*104*			*80-120 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
600 RT 109	08-221182.00	Drinking Water	23-Jan-14 09:40	24-Jan-14
SB83833-02				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Purgeable Organic Compounds													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 0.50		µg/l	0.50	0.47	1	EPA 524.2	29-Jan-14	29-Jan-14	GMA	1402182	
67-64-1	Acetone	< 10.0		µg/l	10.0	2.56	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
71-43-2	Benzene	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
108-86-1	Bromobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
75-25-2	Bromoform	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	0.86	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 0.50		µg/l	0.50	0.34	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
67-66-3	Chloroform	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 0.50		µg/l	0.50	0.26	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	X
74-95-3	Dibromomethane	< 0.50		µg/l	0.50	0.39	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 0.50		µg/l	0.50	0.32	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 0.50		µg/l	0.50	0.41	1	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.40	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
600 RT 109	08-221182.00	Drinking Water	23-Jan-14 09:40	24-Jan-14
SB83833-02				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Purgeable Organic Compounds													
98-82-8	Isopropylbenzene	< 0.50		µg/l	0.50	0.28	1	EPA 524.2	29-Jan-14	29-Jan-14	GMA	1402182	X
99-87-6	4-Isopropyltoluene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.56	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	X
91-20-3	Naphthalene	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	X
103-65-1	n-Propylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
100-42-5	Styrene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
108-88-3	Toluene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 0.50		µg/l	0.50	0.37	1	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 0.50		µg/l	0.50	0.21	1	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	< 0.50		µg/l	0.50	0.23	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.05	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	4.27	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*94*			*80-120 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*80-120 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*108*			*80-120 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*106*			*80-120 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
598 RT 109	08-221182.00	Drinking Water	23-Jan-14 09:28	24-Jan-14
SB83833-03				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Purgeable Organic Compounds													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 0.50		µg/l	0.50	0.47	1	EPA 524.2	29-Jan-14	29-Jan-14	GMA	1402182	
67-64-1	Acetone	< 10.0		µg/l	10.0	2.56	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
71-43-2	Benzene	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
108-86-1	Bromobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
75-25-2	Bromoform	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	0.86	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 0.50		µg/l	0.50	0.34	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
67-66-3	Chloroform	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 0.50		µg/l	0.50	0.26	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	X
74-95-3	Dibromomethane	< 0.50		µg/l	0.50	0.39	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 0.50		µg/l	0.50	0.32	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 0.50		µg/l	0.50	0.41	1	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.40	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
598 RT 109	08-221182.00	Drinking Water	23-Jan-14 09:28	24-Jan-14
SB83833-03				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Purgeable Organic Compounds													
98-82-8	Isopropylbenzene	< 0.50		µg/l	0.50	0.28	1	EPA 524.2	29-Jan-14	29-Jan-14	GMA	1402182	X
99-87-6	4-Isopropyltoluene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.56	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	X
91-20-3	Naphthalene	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	X
103-65-1	n-Propylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
100-42-5	Styrene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
108-88-3	Toluene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 0.50		µg/l	0.50	0.37	1	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 0.50		µg/l	0.50	0.21	1	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	< 0.50		µg/l	0.50	0.23	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.05	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	4.27	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*92*			*80-120 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*80-120 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*109*			*80-120 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*			*80-120 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
619 RT 109	08-221182.00	Drinking Water	23-Jan-14 13:13	24-Jan-14
SB83833-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Purgeable Organic Compounds													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 0.50		µg/l	0.50	0.47	1	EPA 524.2	29-Jan-14	29-Jan-14	GMA	1402182	
67-64-1	Acetone	< 10.0		µg/l	10.0	2.56	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
71-43-2	Benzene	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
108-86-1	Bromobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
75-25-2	Bromoform	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	0.86	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 0.50		µg/l	0.50	0.34	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
67-66-3	Chloroform	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	**13.2**		µg/l	0.50	0.36	1	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	**5.03**		µg/l	0.50	0.26	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	X
74-95-3	Dibromomethane	< 0.50		µg/l	0.50	0.39	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 0.50		µg/l	0.50	0.32	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 0.50		µg/l	0.50	0.41	1	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.40	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
619 RT 109	08-221182.00	Drinking Water	23-Jan-14 13:13	24-Jan-14
SB83833-04				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Purgeable Organic Compounds													
98-82-8	Isopropylbenzene	< 0.50		µg/l	0.50	0.28	1	EPA 524.2	29-Jan-14	29-Jan-14	GMA	1402182	X
99-87-6	4-Isopropyltoluene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.56	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	X
91-20-3	Naphthalene	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	X
103-65-1	n-Propylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
100-42-5	Styrene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
108-88-3	Toluene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 0.50		µg/l	0.50	0.37	1	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 0.50		µg/l	0.50	0.21	1	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	< 0.50		µg/l	0.50	0.23	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.05	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	4.27	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*91*			*80-120 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*			*80-120 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*106*			*80-120 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*			*80-120 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
634 RT 109	08-221182.00	Drinking Water	23-Jan-14 12:42	24-Jan-14
SB83833-05				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Purgeable Organic Compounds													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 0.50		µg/l	0.50	0.47	1	EPA 524.2	29-Jan-14	29-Jan-14	GMA	1402182	
67-64-1	Acetone	< 10.0		µg/l	10.0	2.56	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
71-43-2	Benzene	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
108-86-1	Bromobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
75-25-2	Bromoform	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	0.86	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 0.50		µg/l	0.50	0.34	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
67-66-3	Chloroform	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 0.50		µg/l	0.50	0.26	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	X
74-95-3	Dibromomethane	< 0.50		µg/l	0.50	0.39	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 0.50		µg/l	0.50	0.32	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 0.50		µg/l	0.50	0.41	1	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.40	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
634 RT 109	08-221182.00	Drinking Water	23-Jan-14 12:42	24-Jan-14
SB83833-05				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Purgeable Organic Compounds													
98-82-8	Isopropylbenzene	< 0.50		µg/l	0.50	0.28	1	EPA 524.2	29-Jan-14	29-Jan-14	GMA	1402182	X
99-87-6	4-Isopropyltoluene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.56	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	X
91-20-3	Naphthalene	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	X
103-65-1	n-Propylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
100-42-5	Styrene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
108-88-3	Toluene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 0.50		µg/l	0.50	0.37	1	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 0.50		µg/l	0.50	0.21	1	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	< 0.50		µg/l	0.50	0.23	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.05	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	4.27	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*91*			*80-120 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*80-120 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*108*			*80-120 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*			*80-120 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
738 RT 109	08-221182.00	Drinking Water	23-Jan-14 12:14	24-Jan-14
SB83833-06				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Purgeable Organic Compounds													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 0.50		µg/l	0.50	0.47	1	EPA 524.2	29-Jan-14	29-Jan-14	GMA	1402182	
67-64-1	Acetone	< 10.0		µg/l	10.0	2.56	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
71-43-2	Benzene	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
108-86-1	Bromobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
75-25-2	Bromoform	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	0.86	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 0.50		µg/l	0.50	0.34	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
67-66-3	Chloroform	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 0.50		µg/l	0.50	0.26	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	X
74-95-3	Dibromomethane	< 0.50		µg/l	0.50	0.39	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 0.50		µg/l	0.50	0.32	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 0.50		µg/l	0.50	0.41	1	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.40	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
738 RT 109	08-221182.00	Drinking Water	23-Jan-14 12:14	24-Jan-14
SB83833-06				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Purgeable Organic Compounds													
98-82-8	Isopropylbenzene	< 0.50		µg/l	0.50	0.28	1	EPA 524.2	29-Jan-14	29-Jan-14	GMA	1402182	X
99-87-6	4-Isopropyltoluene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.56	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	X
91-20-3	Naphthalene	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	X
103-65-1	n-Propylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
100-42-5	Styrene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
108-88-3	Toluene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 0.50		µg/l	0.50	0.37	1	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 0.50		µg/l	0.50	0.21	1	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	< 0.50		µg/l	0.50	0.23	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.05	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	4.27	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*92*			*80-120 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*80-120 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*105*			*80-120 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*			*80-120 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
793 RT 109	08-221182.00	Drinking Water	23-Jan-14 11:45	24-Jan-14
SB83833-07				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Purgeable Organic Compounds													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 0.50		µg/l	0.50	0.47	1	EPA 524.2	29-Jan-14	30-Jan-14	GMA	1402183	
67-64-1	Acetone	< 10.0		µg/l	10.0	2.56	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
71-43-2	Benzene	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
108-86-1	Bromobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
75-25-2	Bromoform	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	0.86	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 0.50		µg/l	0.50	0.34	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
67-66-3	Chloroform	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 0.50		µg/l	0.50	0.26	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	X
74-95-3	Dibromomethane	< 0.50		µg/l	0.50	0.39	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 0.50		µg/l	0.50	0.32	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 0.50		µg/l	0.50	0.41	1	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.40	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
793 RT 109	08-221182.00	Drinking Water	23-Jan-14 11:45	24-Jan-14
SB83833-07				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Purgeable Organic Compounds													
98-82-8	Isopropylbenzene	< 0.50		µg/l	0.50	0.28	1	EPA 524.2	29-Jan-14	30-Jan-14	GMA	1402183	X
99-87-6	4-Isopropyltoluene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.56	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	X
91-20-3	Naphthalene	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	X
103-65-1	n-Propylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
100-42-5	Styrene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
108-88-3	Toluene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 0.50		µg/l	0.50	0.37	1	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 0.50		µg/l	0.50	0.21	1	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	< 0.50		µg/l	0.50	0.23	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.05	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	4.27	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*91*			*80-120 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*102*			*80-120 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*106*			*80-120 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*104*			*80-120 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip Blank	08-221182.00	Aqueous	23-Jan-14 00:00	24-Jan-14
SB83833-08				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Purgeable Organic Compounds													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 0.50		µg/l	0.50	0.47	1	EPA 524.2	29-Jan-14	30-Jan-14	GMA	1402183	
67-64-1	Acetone	< 10.0		µg/l	10.0	2.56	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
71-43-2	Benzene	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
108-86-1	Bromobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
75-25-2	Bromoform	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	0.86	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 0.50		µg/l	0.50	0.34	1	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
67-66-3	Chloroform	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 0.50		µg/l	0.50	0.28	1	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 0.50		µg/l	0.50	0.26	1	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 0.50		µg/l	0.50	0.48	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	X
74-95-3	Dibromomethane	< 0.50		µg/l	0.50	0.39	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 0.50		µg/l	0.50	0.32	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 0.50		µg/l	0.50	0.41	1	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 0.50		µg/l	0.50	0.30	1	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
100-41-4	Ethylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	0.40	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip Blank	08-221182.00	Aqueous	23-Jan-14 00:00	24-Jan-14
SB83833-08				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Purgeable Organic Compounds													
98-82-8	Isopropylbenzene	< 0.50		µg/l	0.50	0.28	1	EPA 524.2	29-Jan-14	30-Jan-14	GMA	1402183	X
99-87-6	4-Isopropyltoluene	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	0.56	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	X
91-20-3	Naphthalene	< 0.50		µg/l	0.50	0.27	1	"	"	"	"	"	X
103-65-1	n-Propylbenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
100-42-5	Styrene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.44	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.24	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 0.50		µg/l	0.50	0.40	1	"	"	"	"	"	X
108-88-3	Toluene	< 0.50		µg/l	0.50	0.45	1	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 0.50		µg/l	0.50	0.25	1	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 0.50		µg/l	0.50	0.46	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	X
79-01-6	Trichloroethene	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 0.50		µg/l	0.50	0.37	1	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 0.50		µg/l	0.50	0.21	1	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	< 0.50		µg/l	0.50	0.29	1	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	< 0.50		µg/l	0.50	0.23	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	X
179601-23-1	m,p-Xylene	< 0.50		µg/l	0.50	0.50	1	"	"	"	"	"	X
95-47-6	o-Xylene	< 0.50		µg/l	0.50	0.22	1	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.05	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 0.50		µg/l	0.50	0.38	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	4.27	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*92*			*80-120 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*105*			*80-120 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*110*			*80-120 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*104*			*80-120 %*			"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1402182 - SW846 5030 Water MS										
Blank (1402182-BLK1)					Prepared & Analyzed: 29-Jan-14					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 0.50		µg/l	0.50						
Acetone	< 10.0		µg/l	10.0						
Acrylonitrile	< 0.50		µg/l	0.50						
Benzene	< 0.50		µg/l	0.50						
Bromobenzene	< 0.50		µg/l	0.50						
Bromochloromethane	< 0.50		µg/l	0.50						
Bromodichloromethane	< 0.50		µg/l	0.50						
Bromoform	< 0.50		µg/l	0.50						
Bromomethane	< 0.50		µg/l	0.50						
2-Butanone (MEK)	< 10.0		µg/l	10.0						
n-Butylbenzene	< 0.50		µg/l	0.50						
sec-Butylbenzene	< 0.50		µg/l	0.50						
tert-Butylbenzene	< 0.50		µg/l	0.50						
Carbon disulfide	< 0.50		µg/l	0.50						
Carbon tetrachloride	< 0.50		µg/l	0.50						
Chlorobenzene	< 0.50		µg/l	0.50						
Chloroethane	< 0.50		µg/l	0.50						
Chloroform	< 0.50		µg/l	0.50						
Chloromethane	< 0.50		µg/l	0.50						
2-Chlorotoluene	< 0.50		µg/l	0.50						
4-Chlorotoluene	< 0.50		µg/l	0.50						
1,2-Dibromo-3-chloropropane	< 0.50		µg/l	0.50						
Dibromochloromethane	< 0.50		µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50						
Dibromomethane	< 0.50		µg/l	0.50						
1,2-Dichlorobenzene	< 0.50		µg/l	0.50						
1,3-Dichlorobenzene	< 0.50		µg/l	0.50						
1,4-Dichlorobenzene	< 0.50		µg/l	0.50						
Dichlorodifluoromethane (Freon12)	< 0.50		µg/l	0.50						
1,1-Dichloroethane	< 0.50		µg/l	0.50						
1,2-Dichloroethane	< 0.50		µg/l	0.50						
1,1-Dichloroethene	< 0.50		µg/l	0.50						
cis-1,2-Dichloroethene	< 0.50		µg/l	0.50						
trans-1,2-Dichloroethene	< 0.50		µg/l	0.50						
1,2-Dichloropropane	< 0.50		µg/l	0.50						
1,3-Dichloropropane	< 0.50		µg/l	0.50						
2,2-Dichloropropane	< 0.50		µg/l	0.50						
1,1-Dichloropropene	< 0.50		µg/l	0.50						
cis-1,3-Dichloropropene	< 0.50		µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50		µg/l	0.50						
Ethylbenzene	< 0.50		µg/l	0.50						
Hexachlorobutadiene	< 0.50		µg/l	0.50						
2-Hexanone (MBK)	< 10.0		µg/l	10.0						
Isopropylbenzene	< 0.50		µg/l	0.50						
4-Isopropyltoluene	< 0.50		µg/l	0.50						
Methyl tert-butyl ether	< 0.50		µg/l	0.50						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0						
Methylene chloride	< 0.50		µg/l	0.50						
Naphthalene	< 0.50		µg/l	0.50						
n-Propylbenzene	< 0.50		µg/l	0.50						
Styrene	< 0.50		µg/l	0.50						
1,1,1,2-Tetrachloroethane	< 0.50		µg/l	0.50						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1402182 - SW846 5030 Water MS										
Blank (1402182-BLK1)					Prepared & Analyzed: 29-Jan-14					
1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50						
Tetrachloroethene	< 0.50		µg/l	0.50						
Toluene	< 0.50		µg/l	0.50						
1,2,3-Trichlorobenzene	< 0.50		µg/l	0.50						
1,2,4-Trichlorobenzene	< 0.50		µg/l	0.50						
1,1,1-Trichloroethane	< 0.50		µg/l	0.50						
1,1,2-Trichloroethane	< 0.50		µg/l	0.50						
Trichloroethene	< 0.50		µg/l	0.50						
Trichlorofluoromethane (Freon 11)	< 0.50		µg/l	0.50						
1,2,3-Trichloropropane	< 0.50		µg/l	0.50						
1,2,4-Trimethylbenzene	< 0.50		µg/l	0.50						
1,3,5-Trimethylbenzene	< 0.50		µg/l	0.50						
Vinyl chloride	< 0.50		µg/l	0.50						
m,p-Xylene	< 0.50		µg/l	0.50						
o-Xylene	< 0.50		µg/l	0.50						
Tetrahydrofuran	< 2.00		µg/l	2.00						
Tert-amyl methyl ether	< 0.50		µg/l	0.50						
Ethyl tert-butyl ether	< 0.50		µg/l	0.50						
Di-isopropyl ether	< 0.50		µg/l	0.50						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
Surrogate: 4-Bromofluorobenzene	*46.0*		µg/l		*50.0*		*92*	*80-120*		
Surrogate: Toluene-d8	*51.4*		µg/l		*50.0*		*103*	*80-120*		
Surrogate: 1,2-Dichloroethane-d4	*54.2*		µg/l		*50.0*		*108*	*80-120*		
Surrogate: Dibromofluoromethane	*53.4*		µg/l		*50.0*		*107*	*80-120*		
LCS (1402182-BS1)					Prepared & Analyzed: 29-Jan-14					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.3**		µg/l		20.0		101	80-120		
Acetone	**21.7**		µg/l		20.0		108	70-130		
Acrylonitrile	**19.3**		µg/l		20.0		96	70-130		
Benzene	**21.6**		µg/l		20.0		108	80-120		
Bromobenzene	**20.4**		µg/l		20.0		102	80-120		
Bromochloromethane	**21.3**		µg/l		20.0		107	80-120		
Bromodichloromethane	**20.9**		µg/l		20.0		104	80-120		
Bromoform	**19.4**		µg/l		20.0		97	80-120		
Bromomethane	**14.8**	QC2	µg/l		20.0		74	80-120		
2-Butanone (MEK)	**21.4**		µg/l		20.0		107	70-130		
n-Butylbenzene	**20.4**		µg/l		20.0		102	80-120		
sec-Butylbenzene	**20.2**		µg/l		20.0		101	80-120		
tert-Butylbenzene	**20.7**		µg/l		20.0		104	80-120		
Carbon disulfide	**20.6**		µg/l		20.0		103	70-130		
Carbon tetrachloride	**22.6**		µg/l		20.0		113	80-120		
Chlorobenzene	**19.3**		µg/l		20.0		96	80-120		
Chloroethane	**20.8**		µg/l		20.0		104	80-120		
Chloroform	**21.6**		µg/l		20.0		108	80-120		
Chloromethane	**15.0**	QC2	µg/l		20.0		75	80-120		
2-Chlorotoluene	**21.8**		µg/l		20.0		109	80-120		
4-Chlorotoluene	**21.2**		µg/l		20.0		106	80-120		
1,2-Dibromo-3-chloropropane	**19.4**		µg/l		20.0		97	80-120		
Dibromochloromethane	**21.0**		µg/l		20.0		105	80-120		
1,2-Dibromoethane (EDB)	**21.1**		µg/l		20.0		105	80-120		
Dibromomethane	**21.2**		µg/l		20.0		106	80-120		
1,2-Dichlorobenzene	**20.3**		µg/l		20.0		101	80-120		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1402182 - SW846 5030 Water MS										
LCS (1402182-BS1)						Prepared & Analyzed: 29-Jan-14				
1,3-Dichlorobenzene	**21.4**		µg/l		20.0		107	80-120		
1,4-Dichlorobenzene	**19.0**		µg/l		20.0		95	80-120		
Dichlorodifluoromethane (Freon12)	**16.9**		µg/l		20.0		85	80-120		
1,1-Dichloroethane	**20.2**		µg/l		20.0		101	80-120		
1,2-Dichloroethane	**20.4**		µg/l		20.0		102	80-120		
1,1-Dichloroethene	**20.0**		µg/l		20.0		100	80-120		
cis-1,2-Dichloroethene	**20.6**		µg/l		20.0		103	80-120		
trans-1,2-Dichloroethene	**19.4**		µg/l		20.0		97	80-120		
1,2-Dichloropropane	**20.1**		µg/l		20.0		100	80-120		
1,3-Dichloropropane	**20.7**		µg/l		20.0		103	80-120		
2,2-Dichloropropane	**21.2**		µg/l		20.0		106	80-120		
1,1-Dichloropropene	**21.6**		µg/l		20.0		108	80-120		
cis-1,3-Dichloropropene	**21.0**		µg/l		20.0		105	80-120		
trans-1,3-Dichloropropene	**20.4**		µg/l		20.0		102	80-120		
Ethylbenzene	**21.8**		µg/l		20.0		109	80-120		
Hexachlorobutadiene	**19.9**		µg/l		20.0		100	80-120		
2-Hexanone (MBK)	**23.0**		µg/l		20.0		115	70-130		
Isopropylbenzene	**21.1**		µg/l		20.0		106	80-120		
4-Isopropyltoluene	**20.6**		µg/l		20.0		103	80-120		
Methyl tert-butyl ether	**17.2**		µg/l		20.0		86	80-120		
4-Methyl-2-pentanone (MIBK)	**19.6**		µg/l		20.0		98	70-130		
Methylene chloride	**21.1**		µg/l		20.0		105	80-120		
Naphthalene	**20.0**		µg/l		20.0		100	80-120		
n-Propylbenzene	**20.5**		µg/l		20.0		103	80-120		
Styrene	**19.7**		µg/l		20.0		99	80-120		
1,1,1,2-Tetrachloroethane	**20.5**		µg/l		20.0		103	80-120		
1,1,2,2-Tetrachloroethane	**19.9**		µg/l		20.0		100	80-120		
Tetrachloroethene	**21.2**		µg/l		20.0		106	80-120		
Toluene	**20.7**		µg/l		20.0		104	80-120		
1,2,3-Trichlorobenzene	**20.9**		µg/l		20.0		105	80-120		
1,2,4-Trichlorobenzene	**20.4**		µg/l		20.0		102	80-120		
1,1,1-Trichloroethane	**21.4**		µg/l		20.0		107	80-120		
1,1,2-Trichloroethane	**21.8**		µg/l		20.0		109	80-120		
Trichloroethene	**20.8**		µg/l		20.0		104	80-120		
Trichlorofluoromethane (Freon 11)	**20.7**		µg/l		20.0		104	80-120		
1,2,3-Trichloropropane	**20.3**		µg/l		20.0		101	80-120		
1,2,4-Trimethylbenzene	**20.4**		µg/l		20.0		102	80-120		
1,3,5-Trimethylbenzene	**20.6**		µg/l		20.0		103	80-120		
Vinyl chloride	**20.1**		µg/l		20.0		100	80-120		
m,p-Xylene	**45.8**		µg/l		40.0		114	80-120		
o-Xylene	**22.7**		µg/l		20.0		113	80-120		
Tetrahydrofuran	**22.1**		µg/l		20.0		111	70-130		
Tert-amyl methyl ether	**19.8**		µg/l		20.0		99	70-130		
Ethyl tert-butyl ether	**17.9**		µg/l		20.0		89	70-130		
Di-isopropyl ether	**20.1**		µg/l		20.0		101	70-130		
Tert-Butanol / butyl alcohol	**180**		µg/l		200		90	70-130		
Surrogate: 4-Bromofluorobenzene	*52.2*		µg/l		*50.0*		*104*	*80-120*		
Surrogate: Toluene-d8	*51.3*		µg/l		*50.0*		*103*	*80-120*		
Surrogate: 1,2-Dichloroethane-d4	*50.4*		µg/l		*50.0*		*101*	*80-120*		
Surrogate: Dibromofluoromethane	*51.1*		µg/l		*50.0*		*102*	*80-120*		
Batch 1402183 - SW846 5030 Water MS										

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1402183 - SW846 5030 Water MS										
Blank (1402183-BLK1)					Prepared & Analyzed: 29-Jan-14					
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 0.50		µg/l	0.50						
Acetone	< 10.0		µg/l	10.0						
Acrylonitrile	< 0.50		µg/l	0.50						
Benzene	< 0.50		µg/l	0.50						
Bromobenzene	< 0.50		µg/l	0.50						
Bromochloromethane	< 0.50		µg/l	0.50						
Bromodichloromethane	< 0.50		µg/l	0.50						
Bromoform	< 0.50		µg/l	0.50						
Bromomethane	< 0.50		µg/l	0.50						
2-Butanone (MEK)	< 10.0		µg/l	10.0						
n-Butylbenzene	< 0.50		µg/l	0.50						
sec-Butylbenzene	< 0.50		µg/l	0.50						
tert-Butylbenzene	< 0.50		µg/l	0.50						
Carbon disulfide	< 0.50		µg/l	0.50						
Carbon tetrachloride	< 0.50		µg/l	0.50						
Chlorobenzene	< 0.50		µg/l	0.50						
Chloroethane	< 0.50		µg/l	0.50						
Chloroform	< 0.50		µg/l	0.50						
Chloromethane	< 0.50		µg/l	0.50						
2-Chlorotoluene	< 0.50		µg/l	0.50						
4-Chlorotoluene	< 0.50		µg/l	0.50						
1,2-Dibromo-3-chloropropane	< 0.50		µg/l	0.50						
Dibromochloromethane	< 0.50		µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50						
Dibromomethane	< 0.50		µg/l	0.50						
1,2-Dichlorobenzene	< 0.50		µg/l	0.50						
1,3-Dichlorobenzene	< 0.50		µg/l	0.50						
1,4-Dichlorobenzene	< 0.50		µg/l	0.50						
Dichlorodifluoromethane (Freon12)	< 0.50		µg/l	0.50						
1,1-Dichloroethane	< 0.50		µg/l	0.50						
1,2-Dichloroethane	< 0.50		µg/l	0.50						
1,1-Dichloroethene	< 0.50		µg/l	0.50						
cis-1,2-Dichloroethene	< 0.50		µg/l	0.50						
trans-1,2-Dichloroethene	< 0.50		µg/l	0.50						
1,2-Dichloropropane	< 0.50		µg/l	0.50						
1,3-Dichloropropane	< 0.50		µg/l	0.50						
2,2-Dichloropropane	< 0.50		µg/l	0.50						
1,1-Dichloropropene	< 0.50		µg/l	0.50						
cis-1,3-Dichloropropene	< 0.50		µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50		µg/l	0.50						
Ethylbenzene	< 0.50		µg/l	0.50						
Hexachlorobutadiene	< 0.50		µg/l	0.50						
2-Hexanone (MBK)	< 10.0		µg/l	10.0						
Isopropylbenzene	< 0.50		µg/l	0.50						
4-Isopropyltoluene	< 0.50		µg/l	0.50						
Methyl tert-butyl ether	< 0.50		µg/l	0.50						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0						
Methylene chloride	< 0.50		µg/l	0.50						
Naphthalene	< 0.50		µg/l	0.50						
n-Propylbenzene	< 0.50		µg/l	0.50						
Styrene	< 0.50		µg/l	0.50						
1,1,1,2-Tetrachloroethane	< 0.50		µg/l	0.50						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1402183 - SW846 5030 Water MS										
Blank (1402183-BLK1)					Prepared & Analyzed: 29-Jan-14					
1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50						
Tetrachloroethene	< 0.50		µg/l	0.50						
Toluene	< 0.50		µg/l	0.50						
1,2,3-Trichlorobenzene	< 0.50		µg/l	0.50						
1,2,4-Trichlorobenzene	< 0.50		µg/l	0.50						
1,1,1-Trichloroethane	< 0.50		µg/l	0.50						
1,1,2-Trichloroethane	< 0.50		µg/l	0.50						
Trichloroethene	< 0.50		µg/l	0.50						
Trichlorofluoromethane (Freon 11)	< 0.50		µg/l	0.50						
1,2,3-Trichloropropane	< 0.50		µg/l	0.50						
1,2,4-Trimethylbenzene	< 0.50		µg/l	0.50						
1,3,5-Trimethylbenzene	< 0.50		µg/l	0.50						
Vinyl chloride	< 0.50		µg/l	0.50						
m,p-Xylene	< 0.50		µg/l	0.50						
o-Xylene	< 0.50		µg/l	0.50						
Tetrahydrofuran	< 2.00		µg/l	2.00						
Tert-amyl methyl ether	< 0.50		µg/l	0.50						
Ethyl tert-butyl ether	< 0.50		µg/l	0.50						
Di-isopropyl ether	< 0.50		µg/l	0.50						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
Surrogate: 4-Bromofluorobenzene	*46.0*		µg/l		*50.0*		*92*	*80-120*		
Surrogate: Toluene-d8	*52.0*		µg/l		*50.0*		*104*	*80-120*		
Surrogate: 1,2-Dichloroethane-d4	*54.3*		µg/l		*50.0*		*109*	*80-120*		
Surrogate: Dibromofluoromethane	*52.1*		µg/l		*50.0*		*104*	*80-120*		
LCS (1402183-BS1)					Prepared & Analyzed: 29-Jan-14					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**19.7**		µg/l		20.0		98	80-120		
Acetone	**23.2**		µg/l		20.0		116	70-130		
Acrylonitrile	**19.4**		µg/l		20.0		97	70-130		
Benzene	**22.1**		µg/l		20.0		111	80-120		
Bromobenzene	**19.9**		µg/l		20.0		100	80-120		
Bromochloromethane	**21.3**		µg/l		20.0		107	80-120		
Bromodichloromethane	**21.7**		µg/l		20.0		108	80-120		
Bromoform	**19.6**		µg/l		20.0		98	80-120		
Bromomethane	**14.4**	QC2	µg/l		20.0		72	80-120		
2-Butanone (MEK)	**23.8**		µg/l		20.0		119	70-130		
n-Butylbenzene	**18.8**		µg/l		20.0		94	80-120		
sec-Butylbenzene	**19.5**		µg/l		20.0		97	80-120		
tert-Butylbenzene	**19.4**		µg/l		20.0		97	80-120		
Carbon disulfide	**21.0**		µg/l		20.0		105	70-130		
Carbon tetrachloride	**21.6**		µg/l		20.0		108	80-120		
Chlorobenzene	**19.0**		µg/l		20.0		95	80-120		
Chloroethane	**20.0**		µg/l		20.0		100	80-120		
Chloroform	**20.9**		µg/l		20.0		104	80-120		
Chloromethane	**16.2**		µg/l		20.0		81	80-120		
2-Chlorotoluene	**21.1**		µg/l		20.0		105	80-120		
4-Chlorotoluene	**20.7**		µg/l		20.0		103	80-120		
1,2-Dibromo-3-chloropropane	**20.3**		µg/l		20.0		102	80-120		
Dibromochloromethane	**21.6**		µg/l		20.0		108	80-120		
1,2-Dibromoethane (EDB)	**22.8**		µg/l		20.0		114	80-120		
Dibromomethane	**20.9**		µg/l		20.0		104	80-120		
1,2-Dichlorobenzene	**20.1**		µg/l		20.0		100	80-120		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1402183 - SW846 5030 Water MS										
LCS (1402183-BS1)					Prepared & Analyzed: 29-Jan-14					
1,3-Dichlorobenzene	**20.2**		µg/l		20.0		101	80-120		
1,4-Dichlorobenzene	**18.2**		µg/l		20.0		91	80-120		
Dichlorodifluoromethane (Freon12)	**17.2**		µg/l		20.0		86	80-120		
1,1-Dichloroethane	**20.0**		µg/l		20.0		100	80-120		
1,2-Dichloroethane	**20.7**		µg/l		20.0		104	80-120		
1,1-Dichloroethene	**20.3**		µg/l		20.0		102	80-120		
cis-1,2-Dichloroethene	**20.5**		µg/l		20.0		103	80-120		
trans-1,2-Dichloroethene	**19.6**		µg/l		20.0		98	80-120		
1,2-Dichloropropane	**21.2**		µg/l		20.0		106	80-120		
1,3-Dichloropropane	**21.4**		µg/l		20.0		107	80-120		
2,2-Dichloropropane	**16.5**		µg/l		20.0		83	80-120		
1,1-Dichloropropene	**20.9**		µg/l		20.0		104	80-120		
cis-1,3-Dichloropropene	**20.6**		µg/l		20.0		103	80-120		
trans-1,3-Dichloropropene	**20.0**		µg/l		20.0		100	80-120		
Ethylbenzene	**20.9**		µg/l		20.0		104	80-120		
Hexachlorobutadiene	**18.3**		µg/l		20.0		91	80-120		
2-Hexanone (MBK)	**23.1**		µg/l		20.0		115	70-130		
Isopropylbenzene	**20.5**		µg/l		20.0		102	80-120		
4-Isopropyltoluene	**19.7**		µg/l		20.0		98	80-120		
Methyl tert-butyl ether	**16.6**		µg/l		20.0		83	80-120		
4-Methyl-2-pentanone (MIBK)	**22.9**		µg/l		20.0		114	70-130		
Methylene chloride	**20.8**		µg/l		20.0		104	80-120		
Naphthalene	**20.7**		µg/l		20.0		104	80-120		
n-Propylbenzene	**19.6**		µg/l		20.0		98	80-120		
Styrene	**19.9**		µg/l		20.0		99	80-120		
1,1,1,2-Tetrachloroethane	**20.4**		µg/l		20.0		102	80-120		
1,1,2,2-Tetrachloroethane	**19.8**		µg/l		20.0		99	80-120		
Tetrachloroethene	**21.2**		µg/l		20.0		106	80-120		
Toluene	**21.7**		µg/l		20.0		108	80-120		
1,2,3-Trichlorobenzene	**20.9**		µg/l		20.0		104	80-120		
1,2,4-Trichlorobenzene	**20.8**		µg/l		20.0		104	80-120		
1,1,1-Trichloroethane	**20.6**		µg/l		20.0		103	80-120		
1,1,2-Trichloroethane	**22.0**		µg/l		20.0		110	80-120		
Trichloroethene	**20.5**		µg/l		20.0		103	80-120		
Trichlorofluoromethane (Freon 11)	**19.6**		µg/l		20.0		98	80-120		
1,2,3-Trichloropropane	**20.7**		µg/l		20.0		104	80-120		
1,2,4-Trimethylbenzene	**19.5**		µg/l		20.0		98	80-120		
1,3,5-Trimethylbenzene	**19.3**		µg/l		20.0		97	80-120		
Vinyl chloride	**19.9**		µg/l		20.0		100	80-120		
m,p-Xylene	**43.6**		µg/l		40.0		109	80-120		
o-Xylene	**21.6**		µg/l		20.0		108	80-120		
Tetrahydrofuran	**20.9**		µg/l		20.0		104	70-130		
Tert-amyl methyl ether	**20.4**		µg/l		20.0		102	70-130		
Ethyl tert-butyl ether	**17.6**		µg/l		20.0		88	70-130		
Di-isopropyl ether	**20.2**		µg/l		20.0		101	70-130		
Tert-Butanol / butyl alcohol	**164**		µg/l		200		82	70-130		
Surrogate: 4-Bromofluorobenzene	*52.1*		µg/l		*50.0*		*104*	*80-120*		
Surrogate: Toluene-d8	*52.1*		µg/l		*50.0*		*104*	*80-120*		
Surrogate: 1,2-Dichloroethane-d4	*50.6*		µg/l		*50.0*		*101*	*80-120*		
Surrogate: Dibromofluoromethane	*51.0*		µg/l		*50.0*		*102*	*80-120*		

Notes and Definitions

QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
Nicole Leja

SB83833 AME

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- [X] Standard TAT - 7 to 10 business days
- [ ] Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: ECS
1 ELM ST
WATERBURY, VT
05676
Telephone #: 241-4131
Project Mgr. CAITLIN WOODARD

Invoice To: D

P.O. No.: _____ RQN: 6945

Project No.: 08-22 1182.00
Site Name: WATERVILLE ST
Location: WATERVILLE State: VT
Sampler(s): ZC

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= 12=

List preservative code below: 2

QA/QC Reporting Notes:
* additional charges may apply

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air
X1= X2= X3=

G=Grab C=Composite

Lab Id:	Sample Id: (W)	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: 524.2
SB83833-01	570 RT109	1/23/14	0900	G	DW	3				X
-02	600 RT 109		0940							
-03	598 RT 109		0928							
-04	619 RT 109		1313							
-05	634 RT 109		1242							
-06	738 RT 109		1214							
-07	793 RT 109		1145							
-08	TRIP BLANK	1/23/14	—	—	—	1				X

MA DEP MCP CAM Report: Yes☐ No☐
CT DPH RCP Report: Yes☐ No☐

QA/QC Reporting Level
- [X] Standard
- [ ] No QC
- [ ] DQA*
- [ ] NY ASP A*
- [ ] NY ASP B*
- [ ] NJ Reduced*
- [ ] NJ Full*
- [ ] TIER II*
- [ ] TIER IV*
- [ ] Other

State-specific reporting standards:

2-5-1 / 01-TR-01
AME 01-24-14

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature]	Cy Beth Connell	1/23/14	1550	
Cy Beth Connell	[signature]	1/23/14	17:00	
FED EX	AME	01-24-14	10:30	

☐ EDD Format _____
☑ E-mail to CWOODARD@ECSCONSULT.COM

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☐ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

SB83833 AME

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- [x] Standard TAT - 7 to 10 business days
- [ ] Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval.
- Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: ECS
1 ELM ST
WATERBURY, VT 05676
Telephone #: 241-4131
Project Mgr. CARA WOODARD

Invoice To: D

P.O. No.: _____ RQN: 6945

Project No.: 08-221182.00
Site Name: WATERVILLE SI
Location: WATERVILLE State: VT
Sampler(s): ZC

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11=_____ 12=_____

List preservative code below: 2

QA/QC Reporting Notes:
* additional charges may apply

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air
X1=_____ X2=_____ X3=_____

G=Grab C=Composite

Lab Id:	Sample Id: (AME 01-28-14)	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: 524.2	Notes
SB83833-01	570 RT109	1/23/14	0900	G	DW	3				X	RT 109 Added to ID per client request AME 01-28-14
-02	600 RT 109		0940								
-03	598 RT 109		0928								
-04	619 RT 109		1313								
-05	634 RT 109		1242								
-06	738 RT 109		1214								
-07	793 RT 109		1145								
-08	TRIP BLANK	1/23/14	—	—	—	1				X	

524.2-1/101.1TR01
AME 01-24-14

MA DEP MCP CAM Report: Yes☐ No☐
CT DPH RCP Report: Yes☐ No☐

QA/QC Reporting Level
- [x] Standard ☐ No QC ☐ DQA*
- ☐ NY ASP A* ☐ NY ASP B*
- ☐ NJ Reduced* ☐ NJ Full*
- ☐ TIER II* ☐ TIER IV*
- ☐ Other _____

State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp°C
ZMK	Cy Beth Cannell	1/23/14	1550	
Cy Beth Cannell	ZMK	1/23/14	17:00	
FED EX	AME	01-24-14	10:30	

☐ EDD Format _____
☐ E-mail to CWOODARD@ECSCONSULT.COM

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☐ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

From: (802) 241-4131
Amy Beth Connell
ECS
1 Elm St
Suite 3
Waterbury, VT 05676

Origin ID: MVLA

FedEx Express

J14101312270326

Ship Date: 23JAN14
ActWgt: 30.0 LB
CAD: 103826659/INET3490

Delivery Address Bar Code

Ref #
Invoice #
PO #
Dept #

SHIP TO: (413) 789-9018 BILL RECIPIENT

Laboratory
Spectrum Analytical
11 ALMGREN DR

AGAWAM, MA 01001

FRI - 24 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 7977 1052 5742
0201

EB EHTA

01001
MA-US
BDL

522G1/D6EC/F220

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

747 1 E
2 5742
01.24